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ABSTRACT

Program presentations on issues related to the use of statistics by research libraries and business meeting minutes are combined in this report from the Association of Research Libraries (ARL). The full text is provided for the three papers on the program theme that were presented at the meeting: (1) "Information to Manage--The Economics of Research Libraries" (Martin M. Cummings); (2) "Data for Management's Decision Making" (William N. Hubbard); and (3) "On the ARL Library Index" (Kendon L. Stubbs). Remarks by Gordon Fretwell on the ARL Salary Survey and the group discussion that followed are also included, as well as a panel discussion on the use of data for management and research by Paul B. Kantor, Paul Peters, and Millicent D. Abell. Business meeting coverage includes reports from: (1) the ARL President; (2) the ARL Executive Director; (3) the Office of Management Studies; (4) the Office of Educational Research and Improvement; (5) the Council on Library Resources; (6) the Committee on Bibliographic Control; and (7) the Committee on Collection Development. The ARL Library Index and the ARL Recon Project are also discussed. Appendices provide background information for the reports; status reports for the ARL Office and Office of Management Studies (OMS); excerpts from the OMS annual report; lists of meeting participants, members of the ARL board, task forces, and committees, and member libraries. (KM)

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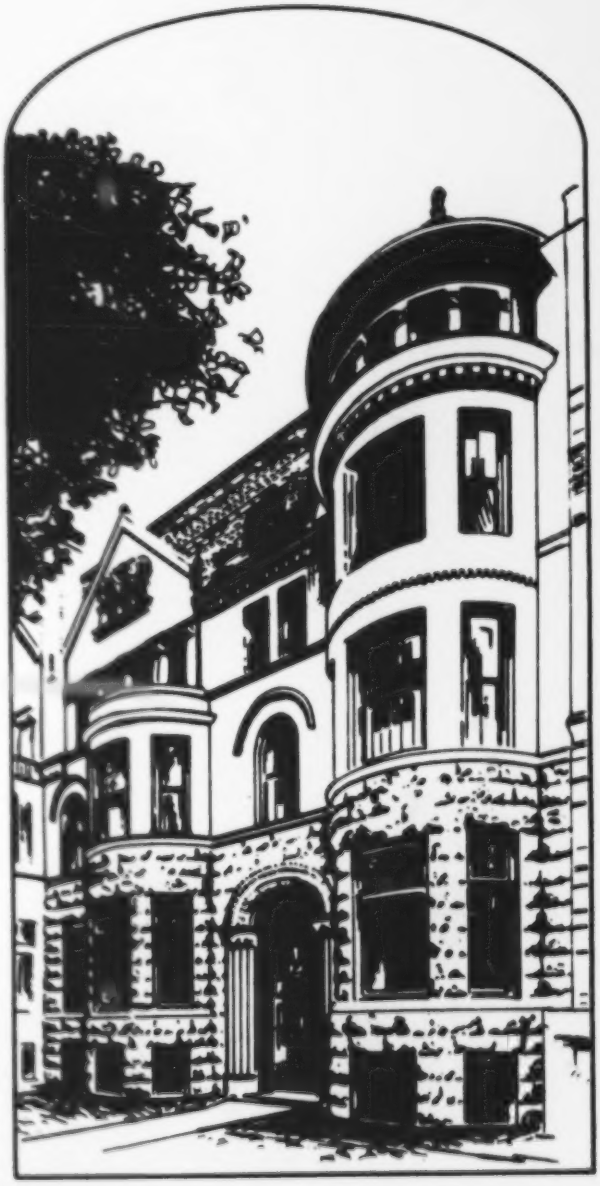
May 1-2, 1986
Minneapolis, Minnesota

Minutes of the 108th Meeting



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Research Libraries: Measurement, Management, Marketing

Minutes of the 108th Meeting

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ASSOCIATION OF RESEARCH LIBRARIES

Minutes of the 108th Meeting

Anne Woodsworth, Presiding

The 108th Membership Meeting of the Association of Research Libraries was held at the Hyatt Regency Hotel, Minneapolis, Minnesota, on May 1-2, 1986. After introducing special guests of the Association, Ms. Woodsworth turned the meeting over to the Program Coordinator, Herbert F. Johnson.

RESEARCH LIBRARIES: MEASUREMENT, MANAGEMENT, MARKETING

Introduction

MR. JOHNSON (Emory University): Good morning to all of you, and welcome to Minnesota. This is going to be a very special meeting for us because it is an opportunity for the Committee on ARL Statistics to bring before you a substantial amount of information about the ARL statistics program and to engage in some in-depth discussions with you about what we are doing and where we are going. Our topic today, as you see in the program, is "Research Libraries: Measurement, Management, and Marketing." And we have a good array of speakers that will help challenge and stimulate us about these ideas and topics.

Our objectives today are two-fold. We would like to help stimulate your thinking and challenge you to engage in some discussions about our research libraries today and how our information dissemination structures are changing and how, therefore, we best can describe and measure what is happening today and in the years to come. More specifically, we would like to examine the ARL statistics program and its various products. There are two ways we need to look at these, and I would like to suggest them to you to keep in mind throughout the day. First, what kinds of information and data do we need to manage our libraries effectively? Second, what kinds of data do we need to compare one library with another, or to study our operations, or to do research? That distinction can be important in sorting out what we should be doing: what data we should collect and how we should use them.

Our plan for the day is to begin by setting the stage or context in which we are talking. We have two distinguished guests from the Council on Library Resources Economic Seminar Program who will be helping us to do that. It is important in this information age, during the reign of Gramm-Rudman-Hollings, that we try to address the issues of financial complications. Following those general presentations, we will then call on the consultants to the *ARL Statistics* and *Salary Survey*, Kendon Stubbs and Gordon Fretwell, to talk to you about the statistics themselves, and to engage in some discussion and clarification, perhaps, as to what they are and what they are not.

Then we turn it over to you — the program is yours. We organized a number of small groups in the latter part of the morning to give you a chance to share your ideas, concerns, and suggestions about the programs with each other and with us. This afternoon, we will have a general discussion of the issues raised during these sessions. The committee is very anxious to capture all your ideas and suggestions, whether they reflect the opinions of one person or the membership as a whole.

Following that discussion, we will turn our attention to how we can use some of the data we are talking about, for both research and management. And we have a distinguished panel to help us do that.

The members of the Statistics Committee are Robert Lee, University of Western Ontario; Richard Dougherty, University of Michigan; Tom Shaughnessy, University of Missouri; Don Tolliver, Kent State University; Kendon Stubbs, University of Virginia; Gordon Fretwell, University of Massachusetts; and myself. Nicola Daval has provided staff support for the last

couple of years, and Robert Molyneux worked with us for about a year and a half. You are welcome to discuss your statistics concerns with me, members of the committee, or staff.

It is now my pleasure to turn the podium over to a friend and colleague who is the Director Emeritus of the National Library of Medicine. He has been a consultant to the Council on Library Resources for the last couple of years on the Economic Seminar Program; he is the author of the new Council bestseller, *The Economics of Research Libraries*, which some of you have already received, read, and complimented. So, I would like to ask you to welcome Dr. Martin Cummings, who will help us set the stage.

INFORMATION TO MANAGE: THE ECONOMICS OF RESEARCH LIBRARIES

Martin M. Cummings
Council on Library Resources

The economics of research libraries has been a topic of interest to the Council on Library Resources for more than a decade. During the past two years, CLR has sponsored a series of studies and seminars in which the major economic and technological issues currently confronting university libraries were defined and reviewed critically by experts in economics, leading librarians, and business and educational administrators. *The Economics of Research Libraries*[1], the report in book form, was written for institutional managers to provide a better understanding of the role and complexity of the modern research library. I will attempt a brief overview of the conclusions as an introduction to this session, in the belief that some of this information will be useful for library management, particularly planning.

Research libraries are in a state of transition resulting both from economic and technological change. The seminar participants suggested that the management process can be assisted and end results improved by careful strategic planning, an effort that will require contributions from senior university officers, faculty, and library users as well as library staff. A number of data requirements were identified to serve as a baseline from which future trends could be measured. Future trends that may influence planning need to be kept in mind. Some of these are summarized in the economic context, while others relate more specifically to technological progress. The following trends need to be considered in strategic planning for libraries.

The growth of published materials will continue to strain the ability of libraries to acquire, organize, and distribute information. The pressures on libraries will be increased by the availability of information in other forms: magnetic and optical disks, microforms, and electronic publications. Databases will continue to increase in number as knowledge is expanded, fragmented, and re-expanded. Computer storage and retrieval systems will provide increased capacities at lower unit costs, whereas telecommunications costs will increase somewhat until fiber optics supplement and ultimately replace existing networks. Although computer technology has been applied successfully to library functions, there is little evidence of significant cost savings. The number and quality of library services have been increased by automation. With the increased use of microcomputers, more user friendly methods to access and acquire information and data will be developed. More library services will be provided electronically to users at remote sites. There will be continued growth, development, and use of local, regional, and national information networks.

There will be reductions in the expenditures for books and periodicals in smaller libraries, with concomitant increases in interlibrary lending from larger libraries. The trend toward bibliographic utilities and consortia will continue with centralization of indexing and cataloging in the national libraries and the major research libraries. The cost for cataloging may continue to decrease modestly as a result of shared cataloging and copy cataloging.

New systems for compact storage and retrieval of library materials will lessen the demand for physical space. Micro-reduction, compaction, and miniaturization of information on optical and compact disks not only will save space, but will provide a new approach to preservation. Micropublishing will increase as lower-cost equipment becomes available for digital text storage

and retrieval. Librarians will be trained to work with more complex technical systems. More librarians will be subject specialists in fields pertinent to academic research and teaching. In this context, professional library staffs will need to be familiar with the progress in artificial intelligence and expert systems now emerging. These highly trained professionals will require significantly high salaries.

Given developments along these lines, libraries will provide unparalleled services to scholars and students. The effectiveness of new library systems will allow them to compete successfully with the more limited commercial information sources. In this context, there will be increasing use of fees for specialized services. This situation will also require a degree of marketing with which libraries have had little experience. Continued involvement and investment in new information technologies will enable libraries to retain their vital role as a central resource for information in many forms.

There will be closer integration of existing library and information services within institutions. University library directors will be more involved with senior officers, deans, faculty, and computer center managers in the design and operation of local area networks. They will become more aware of the usefulness of functional cost and performance data for improved strategic and budgetary planning. Paul Kantor's manual on performance measurements, *Objective Performance Measures for Academic and Research Libraries*[2], is an important contribution to this end. The ultimate benefits derived from strategic planning and better management practices will be seen in improved library services that are provided at reasonable costs and, where necessary, at competitive prices. The technical tools and management methods to accomplish this are available; where we are lacking is in their utilization.

Our guest speaker today, Dr. William N. Hubbard, is eminently qualified to address management issues and practices affecting research libraries. He received his undergraduate education at Columbia University and his medical degree from New York University. Certified as a specialist in internal medicine, he taught and practiced medicine at NYU, and served as Associate Dean for nine years. He was appointed Dean of the University of Michigan School of Medicine, where he served from 1959 to 1970. In 1963, he was appointed to the Board of Regents of the National Library of Medicine by President Kennedy. With Scott Adams, the NLM Deputy Director, he developed the strategic plan that guided the institution through the implementation of MEDLARS and the establishment of a successful program of grants supporting research, training, resource sharing, and medical library construction throughout the United States. He was elected Chairman of the Board by his fellow Regents. He was the first citizen to be reappointed to the Board of Regents by President Nixon in 1972. During the next four years, he provided valuable assistance in the planning that led to the creation of Lister Hill National Center for Biomedical Communication. He was a member of the National Advisory Committee on Libraries from 1966 to 1968. In 1972 he was appointed Executive Vice President of the Upjohn Company, one of our nation's prestigious pharmaceutical companies. He served as President from 1974 until his retirement last year. During his tenure he introduced modern management systems and designed and constructed a new specialized research library, while stimulating an extraordinarily successful research and development program. Those of you who follow the stock market know that the company thrived under his leadership.

Dr. Hubbard has served on the Board of the National Science Foundation; has been President of the Association of American Medical Colleges; is a member of the Board of Trustees at Columbia University and of the boards of directors of the Kellogg Foundation and a number of other important universities, foundations, and corporations. He served as a core member of the CLR Economics Seminar.

Through his publications, ranging from ethics to economics, Dr. Hubbard is recognized as a scholar as well as a successful institutional leader. His long-standing interest in research

libraries is reflected in his willingness to be with us today. I am pleased and honored to present him to you at this time.

References:

1. Cummings, Martin M. *The Economics of Research Libraries*, Washington, D.C., Council on Library Resources, 1986.
2. Kantor, Paul B. *Objective Performance Measures for Academic and Research Libraries*, Washington, D.C., Association of Research Libraries, 1984.

DATA FOR MANAGEMENT'S DECISION MAKING

William N. Hubbard
Consultant, CLR Economics Seminar

This morning I will offer a single and inevitably personal perspective of the information that is most useful to the management of libraries in the continuing process of the reallocation of their resources so that user needs may be met most efficiently. In the role of layman speaking to a group of professionals, I am at best an amateur. The Oxford English dictionary suggests that an amateur is "one who loves, is fond of, or has a taste for anything." Unhappily after 1803 the use of the term to indicate a dabbler or meddler began to be observed, and more recently the term has tended to describe one who is either inexperienced or incompetent or both. My own choice of these definitions is highly predictable. Yours, I hope, will be deferred until the conclusion of my remarks.

Nothing in my remarks will represent a new contribution to the scholarly literature; they are rather a commentary that is impressionistic. They are my own view of what is most useful within the avalanche of statistics that data processing itself demands and creates. I will propose to you four areas within which, in my opinion, improved information is necessary if library management decisions are to be effective; and then conclude my remarks with the suggestion of an analogy — that ultimate retreat of confused logic.

The first and most important of these areas is the analysis and allocation of costs by the functions which have been determined as management's objectives. The second is to develop measures that are part of ongoing operations and are surrogates for user satisfaction and user success in utilizing library services. The third area is to develop a set of output definitions that are consistent with the operating objectives of management and determining the costs associated with each unit of output. Finally, if management knows the costs associated with their objectives, can determine the degree to which the user is satisfied in the course of working within the objectives of library management, has defined units of output and allocated costs by such units, then, and only then, is it possible to have a strategic plan for reallocation of resources over time that can be stated both in narrative and fiscal languages.

The conclusion of my remarks derives from the notion that misery in fact does love company. There is a difference between company and comfort; which is emphasized by the suggestion that the analogue of the library is the hospital in today's culture.

Functional — or program — cost analysis and allocation has a symmetrical obverse in matching sources of income to functional units. The functions — or programs — that are properly chosen for cost analysis and allocation are best selected by the management itself. By and large, these choices will be a set of definitions derived from the various uses of the processes and services that are embedded within the given characteristics of the institution; reflecting the requirements of the user groups whose needs justify the existence of the library processes and services in the first instance. Functional — or program — analysis is therefore almost indistinguishable from the process by which management selects its own objectives. The analysis of sources of income is particularly pressing today since it defines the economic effectiveness of a user with many options in addition to the research library. To make these felt user needs into an effective demand requires allocation of user resources which are, as this audience knows too poignantly well, increasingly difficult to enlarge. The scarcity of these resources

along with the increasing felt needs of the users makes it essential that a research library be able to distinguish between those categories of service that will probably be supported through general institutional funds and those activities that will have to be adjusted to match specialized sources of support. Undergraduate reserves would probably be an example of the former, while collections for the health sciences are closer to the latter.

Analysis of the costs of the components of the operational processes of the library will remain necessary in the future. In addition, however, the contribution of the *use* of these services to measured success in the educational and research functions must be developed over time — a time that began yesterday. Different institutions will have their own unique set of management defined functional objectives. The archival and historic function of some libraries will have very different emphasis from that of others. The commitment of management to the artistic and aesthetic components of its services also will vary and the portion of total resources devoted to so-called outreach objectives will likewise vary. The need to develop more effective functional cost analysis and allocation is obvious. It is indeed the absolute essential of any kind of strategic plan since it is only by locating costs that we can adapt allocations to external changes. Budgets are at best a translation of programs. Budgets are not a description of planned disbursements that is self-sufficient. These uses of data by management are supplemental to the familiar pattern of uniform data intended to allow comparisons — a necessary but insufficient justification for their collection.

The second area of emphasis is the development of reliable measures of user satisfaction. It is my understanding that the user success rate in securing a volume or successfully filling a reference request is something in the order of 50 percent. In looking for publications that describe the reasons for failed user efforts, I have found very few systematic proposals for reducing the failure rate. Since I am familiar with the literature in only the most superficial way, these observations may well be incorrect. Nevertheless, it is my impression that more effective and widespread analyses of user satisfaction are required. Since the cost of a contact is probably much the same whether it is successful or unsuccessful, the actual cost of each successful unit of service provided is of course directly and proportionately related to the number of unsuccessful units that are observed. Ultimately it is the cost of providing the benefit of a successful contract that needs to be managed. In strictest terms the benefit may not be measurable in the same dollar amount as the cost. Nevertheless, even a qualitative statement of degree of satisfaction as it relates to cost would come closer to serving as a cost benefit statement than the absence of any such calculation at all. As the overarching management program of choices of the aggregates established for cost analysis reflect more closely the educational programs and research related programs of the institution, the costs of each unit of success may be more nearly feasible of attainment.

The improvement of understanding the means of user satisfaction is emphasized by the increasing use of non-library resources for access to information. The traditional library is losing market share in a growth market of information exchange that is unprecedented. A reasonable and urgent question is to identify the reasons for the user turning to alternative methods and institutions. The library management must then decide whether selected growth areas of the information market are ones into which they can expect to expand successfully. Since in an open market, it is the most efficient producer of information services that will survive, the validity of the question of whether or not a given research library can develop the relative advantage that will provide a reasonable basis for success is an urgent reality for management. Such an analysis requires careful identification of the information functions that are being offered by the library in the open market's auction transaction with the user; understanding the *total* costs to the consuming user of the information as well as the costs to the producing library. Changes in the patterns of research library service are occurring at an increasing rate,

largely as a result of forces external to the library. The capacity of library management to adapt successfully to these changes will depend heavily upon the ability to measure the satisfaction of their users and their own costs in each successful transaction.

The third area that I would call to your attention is the importance of identifying the costs of each unit of output. In this instance, I am referring more narrowly to the issues raised by collection size. From my own perspective, collections have the characteristics of working capital. They have the general aspects of an inventory either of work in process or finished goods awaiting a user. The "just in time" theories of inventory management that have been popularized in the press and have characterized one of the advantages of the Japanese systems of material management need to be applied to the management of the inventory that we call the library collection. Collection size then becomes the denominator of a simple relationship in which utilization of either bibliographic units or volumes becomes the numerator. The 80-year-old problem of deciding on the definitions that will allow cross comparisons of collection sizes and acquisition rates should be a source of neither despair nor amusement; although this decade's long confusion does make interlibrary comparisons very fragile. The aim of identifying cost per unit of output as a function of collection size is an essential tool for the internal management of the individual library, whether or not these data are ever used as a source of comparison with similar institutions.

The fourth and last set of needed data that I would call to your attention is that required for the development of strategic plans for reallocation of resources over time. Many have and will continue to argue that long-term strategic planning falls into the realm of prophesying and, furthermore, that it is convincing to very few who are responsible for making resource allocations. Indeed, if all that is available for strategic planning is a set of statistics that record total expenditures and analysis of expenditures on some of the components of the processes that go on in a library, then I would agree that strategic planning from this kind of a database is of very limited value. There are, however, major components of change in management objectives that need to be made explicit and to be translated into their programmatic and fiscal effects. Almost everyone is working on a projection of the budget for the academic year 1987-88, having pretty much given up on improving further the budget for the academic year 1986-87. Given our rates of change, this effort is indeed long-range planning because it involves strategic choices by management. Since long-term strategic plans generally extend to more than five years, I would suggest that all of us by working today with the 1985-86 budget, having committed the 1986-87 budget and started on 1987-88, are really quite familiar with the advantages and the shortcomings of strategic planning.

It is not that we are inexperienced with making projections into the near term future, but rather that the components of our plans of program and budget do not describe an adequate managerial response to the most significant changes that are affecting us. Demographic shifts, the political and institutional constraints on rates of budget growth and the demands of users for the incorporation of new technology and information management are all elements of change well-known to you. The relative values placed by users of the library on different aspects of library service are not as widely acknowledged and not *nearly* as widely applied in strategic planning as is necessary for the future. It is essential that costs be allocated by user-defined program if we are to adapt successfully to changes forced by external circumstances. Our budgets must be treated as translations of these user-defined programs in order that we may reallocate resources more effectively.

I would reemphasize that these programs that are chosen for strategic analysis represent choices that management makes. It is the objectives of the management that must be represented by the program components of the strategic plan. A strategic plan to be of any use whatsoever must, in the first instance, be of use to the management of the library in reaching

its own output objectives. If the programs identified in the strategic plan do not match the output objectives of the management, then the components have not been chosen properly. The absence of a functional strategic plan with its budgetary translation will place the library at a critical disadvantage as they are reviewed by resource allocators. Successful plans incorporate the efforts of all those affected by the plan, beginning with the consuming user and all those whose personal efforts make the plan work. The role of management is one of leadership.

The final thought that I would leave you is that libraries are not alone among the institutions of our society with the problems and opportunities that I have alluded to. The social benefits that are enabled by education and research can be considered as analogous to the practices that are assumed to contribute to the social benefits of health. Both education and research, as well as health services have outcomes that are highly valued but are not readily measured. In each case their function is to enable human achievement rather than being an end in themselves. The current escalating costs of the processes in each of these areas is forcing selective judgments of the relative value of the processes. These resource constraints raise serious questions of institutional definition, professional responsibility and, indeed, the ethics of such decision making as it affects the individual consumer. Traditionally, both library services and services contributing to health were considered as open-ended social goods. Now, each of these — and others — must compete openly with other social goods. This is not actually a new situation, but it is certainly much more obvious currently as the driving effects of technology on both health services and on library services create anxiety as to whether the benefits of the outputs are growing proportionately.

Just as education and research extend far beyond the library, so do health services of all kinds extend far beyond the hospital. Nevertheless, it is the hospital that is most nearly analogous to the library. One starts with the inevitable observation that each individual user and each individual provider is a unique entity and then proceeds to the observation that it is only as they meet utilitarian standards that their long-term survival is assured. Both hospitals and libraries are now struggling with the question of the identification of the basic guaranteed level of availability, accessibility, and quality that should be assured to each of several user groups. Both hospitals and libraries are seeking acceptable methods of acquisition of resources for individualized services beyond the floor that is guaranteed to all. There is more and more pressure for the development of a market in which the consumer can participate in an open auction with the producers for the goods and services that are sought. In all of this it becomes obvious that technology itself, no matter how attractive, adds costs since service outputs generally are increased beyond the efficiencies achieved by the new technology. Pre-existing services undergo attrition at a much slower rate than the growth of the technology-based novel services. Furthermore, personnel costs escalate where technology drives the system because more and more skill is required of the worker. As a result of the short life expectancy of the hardware and software of the new technology, capital costs soar. These characteristics are as true of hospitals as they are of research libraries.

The concluding thought I would suggest to you is that the crucial variable of adaptive success is the quality of management and the ability of management to foresee the changes forced by external pressures. It is successfully developing the availability of the information that will allow management to make more effective decisions that is now required. That requirement implies a new and ongoing commitment from that very same management.

MR. JOHNSON: Thank you, Bill. That is a very stimulating presentation. We have just a few minutes if you have some comments or questions you would like to address to Dr. Hubbard.

MR. TALBOT (University of Massachusetts): Dr. Hubbard, I wonder if you could explain briefly what you meant by "user-defined programs." How would you suggest we go about determining what the users want, particularly in the context of the library, which is not really its own master but is a subset of the organization?

DR. HUBBARD: I am not sure my reply is worth amplifying. But with regard to the last portion of your comment, as Marty Cummings pointed out, I have never been able to hold one job very long. Moving through this rat race, I find that nobody is their own master, and the notion that somehow you reach a level where you determine self-determination is one of life's grand illusions. The saving grace is that our judgments are so faulty that if decision making were not diffused, just think what would happen.

One way to find out what user needs are — and I do not mean to be glib — is to ask them. There have been some very provocative studies that I have had an opportunity to read recently in which library users were asked to rank in order of their preference the various functional programs of the library. These studies are available in the literature; they are not very sophisticated or satisfying.

You look at the trends of what users are actually doing and then ask yourself whether there is an activity that has an economically effective component. I believe one's own objectives are derived from one's image of what serves best — the leader is defined by who will follow. A leader without a following is a definition of futility. So, it is the leader's ability to conceptualize what the following actually would like that makes him a leader in the first instance. And if the management cannot do that, there are alternatives.

MR. KANTOR (Tantalus, Inc.): I wonder if you would elaborate a bit on this very intriguing notion that strategic planning will not convince those who allocate resources unless it has both a narrative and a fiscal component.

DR. HUBBARD: Well, Paul, as usual, gets down close to the bone. Most people cannot read numbers. That is to say, the numbers do not carry any ability to attract past experience or to relate the individual to some external event. Numbers typically are isolating as people read them. On the other hand, people are used to thinking that unless they are presented with numbers, the argument is not convincing. So, in my view, one needs the narrative. In a less more serious way, it is also an important discipline for management, or one who is preparing the plan, to find the words that express their intentions and objectives. This is a demanding discipline if it is done well.

One has several levels of statement in this narrative, of course, with the overarching community statement that identifies institutional goals and the others that are subordinate to it. It is not a single statement. The narrative, as I understand it, however, is a verbal statement of management's intentions. It is possible to put those down in numerical form without the narrative, but most folks cannot read that. So I suggest that you need the narrative and the translation into the fiscal language in order to close the circle. It is an empirical observation.

ARL'S STATISTICS PROGRAM

Introduction

MR. JOHNSON: This portion of the program will highlight ARL's two annual statistical publications, the *ARL Statistics* and the *ARL Annual Salary Survey*. But before we begin, I would like to mention several other statistical and data gathering projects and products that are part of ARL's operations, and thus are also appropriate for our consideration and discussion today.

The first is the ARL Supplementary Statistics, which, in a sense, is really an extension of the other two. We have, in the last couple of years, experimented with some new measures, preparatory to moving them into the regular surveys. Another area where we have recently begun collecting information is preservation. The results of the first Preservation Statistics questionnaire are not yet in a final form, so you have not been able to see them, but I wanted to at least mention it. The Automation Inventory, developed by the OMS — in particular Maxine Sitts — is a device in which we are trying to gather descriptive information for automation in our libraries, as well as, recently, some of the costs and expenditures associated with it. Each year we produce a simple report giving the percentage of general and educational expenditures represented by the library budgets. We also have a manual, *Objective Performance Measures for Academic and Research Libraries*, which was authored by Paul Kantor for ARL, and which has already been mentioned. Another special publication that has just come out is *The Gerould Statistics, 1907/08-1961/62*, by Robert E. Molyneux. You may have received it just prior to this meeting; otherwise it will be in your mail when you get home.

All of these reports and projects are part and parcel of our operations. It is important to recognize that, as much as we are concerned and complain about our data and statistics, many researchers and statisticians, as borne out in the CLR Economic Seminar, find that ARL's data are as good as any in the library profession or in higher education. That may not be saying too much, but we should recognize that and also recognize that these data compare favorably with much of the data available generally in behavior and social sciences. We are so close that often we can only see the blemishes and warts. We should recognize the past and take some pride in what we have developed. But we also need to acknowledge and recognize their limitations, and as we ponder in today's seminar, that is important. We also need to keep in mind, as we consider the data we gather, what kind of information it is that we share and how we use it, what should be published, what should be handled confidentially — remembering that both as libraries and as an association we espouse improved access to information and we decry censorship, most recently the restrictions of dissemination of federal information evidenced by the OMB circular on dissemination.

I would like now to introduce two gentlemen for a few comments and a chance to answer questions. The first is Kendon Stubbs, who is the Associate Librarian at the University of Virginia, a long-time member of the Statistics Committee and consultant to the *ARL Statistics*. The second is Gordon Fretwell, Associate Director for Public Services at the University of Massachusetts and compiler of the *ARL Salary Survey*.

ON THE ARL LIBRARY INDEX

Kendon L. Stubbs
University of Virginia

[*Note:* Due to time constraints, Mr. Stubbs was able to present only a brief summary of his remarks at the meeting. The full text of his paper is presented here.]

You received in the mail a few weeks ago a paper on the ARL Statistics. The Statistics Committee hopes that during this meeting you will offer us guidance on questions raised in that paper. The paper tried to present four main points:

1. There *are* anomalies in the ARL statistics. Even a visitor from outer space, who knows nothing about research libraries, could find some strange-looking numbers there.

2. The statistics primarily measure ARL resources, and say little or nothing about important aspects of research libraries, such as access, performance, and service.

3. ARL is by no means the only sinner or even the greatest of sinners. You can find strange-looking numbers in any data compilation.

4. The Statistics Committee believes that the ARL statistics can be redeemed. We urge you to join us in this endeavor. We look forward to the day when the ARL statistics can adopt as its motto the old mountain proverb:

> We ain't what we want to be,
> and we ain't what we're gonna be,
> but we ain't what we wuz.

I would like briefly to apply some of these points to the ARL Library Index. During the late 1960s, ARL set itself on the path of quantitative criteria for membership. The Index was approved by the membership in 1980 as the latest version of numerical criteria. It combines in one measure ten categories of data — four concerning collections, four concerning expenditures, and two concerning staff. The Index is an attempt to get away from what are called single-variable proxies for library size and resources deployed. Volumes held is an example of a single-variable proxy; it tells something but not by any means everything about library size.

The Index has been troubling people in four ways.

First, strange-looking numbers in the ARL data pass into the Index and produce strange-looking Index scores and ranks. Cleaning up the raw data, as the committee proposes, will also clean up some of the Index scores.

Second, some people feel that the Index combines redundant or disparate categories. The most telling argument here is that the Index includes both total salaries and numbers of professionals and support staff. Don't salaries measure about the same thing as number of staff? On

the other hand, don't the libraries with high salaries, like the California schools, have an advantage in the Index over the libraries with low salaries?

The answer to these questions is that the Index is a very robust measure. I recently calculated the 1984-85 Index and then removed total salaries and recalculated it. Removing total salaries made almost no difference in each library's rank in the Index. On the average, libraries moved up or down in rank only one place. Delete *all* expenditures from the Index, and the median change in rankings is only three places up or down. Or keep expenditures and delete collections and personnel, and the ranks change by a median of four places.

In short, for those of you who remember Al Capp's shmoos, the Index is like a shmoo. No matter what you do to it, it always remains the same, always continues to smile at you with grave, hopeful eyes.

The *third* criticism of the Index is that it ignores access, performance, and service. This is certainly true. One reason it is true is that some ARL libraries have not yet figured out how to measure access or service. The ARL Supplementary Statistics last year and this year asked for some fairly simple and traditional statistics on circulations, reference questions, branches, and so on. One-third of ARL libraries could not provide one or more of these statistics.

There is another problem about incorporating access measures into the Index. I tried doing this with the supplementary data, where it is available. It turns out that the access measures have almost no effect on the Index. The Index is heavily dominated by measures of resources, and the measures of access simply do not carry much weight.

What you can do, of course, is construct an Index based only on access and user measures. The result is a brave new world for which I am not sure everybody is ready. In the access Index Ohio State ranks 5th, Stanford is 9th, MIT is 12th, Chicago is 19th, Princeton ties with Virginia Tech at 39th, and so on. And, of course, one-third of the members are not represented in the access Index.

The *fourth*, and I think most serious, problem with the Index is that it can be misinterpreted as an index of quality and status. My own president has written,

> I would deemphasize currently quantitative measures of library status such as the annual ARL statistical rankings.

Of course, the other side of the coin is that the Index has done yeoman service for some people. The Index can at least be used as the drunkard uses the lamp post — for support if not illumination. One of our staff members recently received a fund-raising brochure from his alma mater. The brochure listed the recent accomplishments of the university. The greatest accomplishment was of course reaching the Final Four in the NCAA basketball tournament. But the second-greatest, according to the brochure, was that the library made the top twenty in the ARL Index.

That university is going to have to look for a different marketing device, because the Index has not been published this year. The *Chronicle* may have to publish the ARL data in a boring alphabetical list, from Alabama to York. An alphabetical list is not news, however. News is to report who is number two in the country, Berkeley or UCLA. Maybe the *Chronicle* will have to use the tried-and-true ranking by volumes held, in which case number two will not be Berkeley or UCLA but Yale.

However much we may deplore it, I am sure that people are going to continue to try to rank libraries — if not by the Index, then by some other criteria. Volumes held is the old faithful. Bob Molyneux tells me that if you go to the archives in Texas or Illinois or other libraries and look at the original sheets of university library statistics, you will find that back in the 1920s and 1930s and 1940s library directors used to write ranks on the alphabetical lists. When I became a student assistant in the 1960s, ARL was still issuing its statistics only in

alphabetical lists. One of my first jobs, assigned by the director, was to go through the alphabetical lists and put them in rank order. Last year, when the Group of 25 ARL libraries met, the criterion for an invitation to that group was still volume holdings, or specifically a rank in the top 25 in volumes held. That was the group that outsiders named the ARLRL — Association of Really Large Research Libraries.

Ranking and the search for commonalities among libraries — to use a term from factor analysis — have practical consequences. At the last meeting of the Statistics Committee, we struggled with the question how to divide the membership into discussion groups at today's meeting. Someone said, let's divide them up by Index scores. The committee stopped short of demanding a formal apology for that recommendation. Someone else said, let's use volumes held. But that suggestion was thought to be hopelessly old-fashioned. We got out the statistics and looked at the expenditure tables, but found that the expenditure rankings make strange bedfellows. We finally agreed that the best solution was . . . to adjourn, catch our planes, and leave the problem to the ARL staff.

So I would like to suggest the following question as one topic for the group discussions in a little while. Look around the room at the dozen people in your group, and ask: what do we have in common, and how can we describe it? Is it volumes held? Added volumes? Number of professionals? Interlibrary loan turnaround time? Success rates of reference transactions? Or even a combination of variables like the ARL Index?

ARL SALARY SURVEY

Gordon Fretwell
University of Massachusetts

In my view, the data collected and accumulated by ARL for the Salary Survey becomes more useful as time goes on, and has far more importance than the tables of data which appear each year in published form (the *ARL Annual Salary Survey*). The potential for analysis of salary trends and for job-specific analysis of one library's positions within the context of a peer framework should not be underestimated. There is a wealth of management information in these accumulated surveys; far more than can be adequately summarized and published in a form comprehensible to the typical reader. As a result, the Association provides an opportunity for member libraries to request specific analyses of their salary data in the context of any ARL library peer group they find useful. These analyses do not automatically solve any library salary problems, but rather they can be used to illuminate and identify salary problems which exist. Professional salaries (which the Salary Survey is limited to), may account for as much as 20% to 25% of an ARL library's total budget, and that is a substantial sum in aggregate.

The Salary Survey is simple in concept, but the logistics of soliciting, verifying, and editing the data into a final report are more complex. The majority of the compilation effort has been automated, so the overall effort has been kept within bounds of reasonable effort.

What I am most interested in taking away from this meeting is a sense of your problems and critiques of the published survey so that it can be improved. Such improvement might take the form of an expansion of the tables which are published — e.g., the tables appended to the paper on the Salary Survey distributed prior to this meeting [see Appendix B] — but improvement does not have to imply expansion. Improvement might lie in the area of tightening up definitions, or refinements in the position coding scheme. Are there data that would aid your budgetary exercises if published sooner than the final report? Both the Management Committee and the Committee on ARL Statistics are interested in information related to turnover and retirement, so in the next survey we will be collecting Year of Birth for all professional staff in order to forecast trends in retirement. Any suggestions as to changes that would improve the utility of the Survey will be welcome.

MR. JOHNSON: Gordon, could you comment briefly about the work you are doing with the ACRL Personnel Librarians and the Optional data categories that you have been collecting?

MR. FRETWELL: I have been working for the past year and a half with the ACRL Personnel Administrators and Staff Training Officers Discussion Group. We have been collaborating to enhance the value of the Salary Survey. In last year's Survey, we asked for several categories of data for which a response was optional. These questions dealt with a breakdown of tasks for several job categories which seem to be poorly defined, and we wanted to see how these positions were being used in the member libraries. We also asked for extent of formal education as measured by earned degrees in both librarianship and other fields. Finally, we asked for each librarian's length of service in the reporting library, in their current position, and in their current rank (if employed in a library with a rank system in place). The response was better than 50% on the average, but we are repeating these optional categories one more year in the

hope of getting a better response rate. The resulting data will be used to assess the correlation between salary and education, length of tenure, etc.

The Personnel staff in your libraries, to a large degree, make up this discussion group, and it is rewarding to see the interest they have in this kind of information, and the potential they see for its usefulness in their daily work.

MR. JOHNSON: Do you have any question or comment for Gordon at this point?

MR. CARRINGTON (Rice University): I think the qualitative data and Salary Survey are much more helpful than the other statistics; however, is there a way you can correlate more closely the average number of years of professional experience with the salary data? We all have in varying degrees what we call administrative overhead with personnel and mandatory reasons or legal reasons we cannot get rid of them. Can you sort of fine tune that aspect of the Salary Survey?

MR. FRETWELL: Yes and no. I have two illustrations that may address the first question.

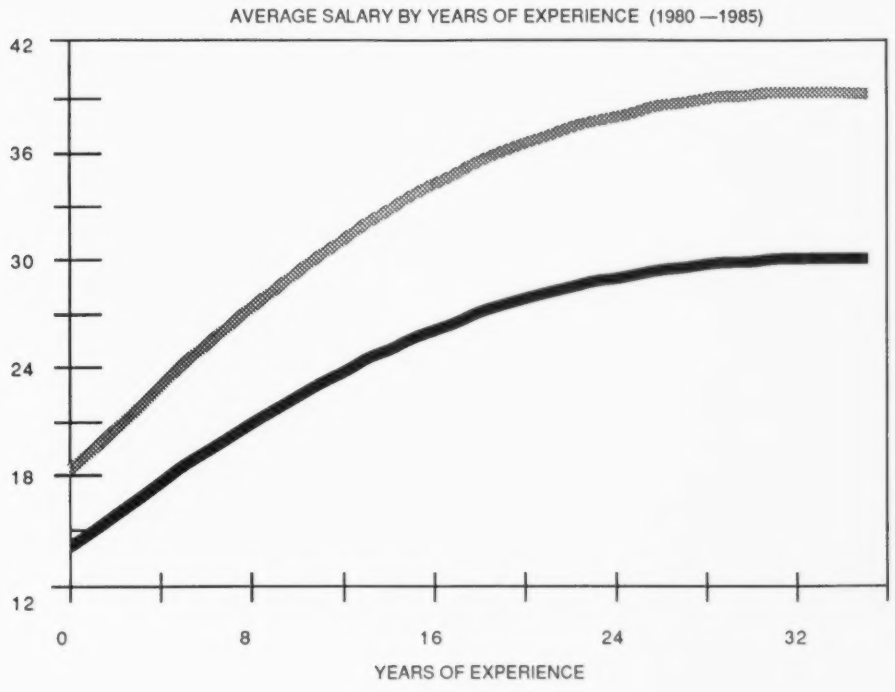

Figure 1

The data on past surveys, that is usable for continuing analysis, goes back to the 1980 Survey. In Figure 1, the lower line of the graph illustrates the average salary paid to ARL librarians according to their years of professional experience in 1980. The upper line indicates the average

salary in the 1985 survey. The difference between the two lines represents the degree of salary escalation in the intervening five years.

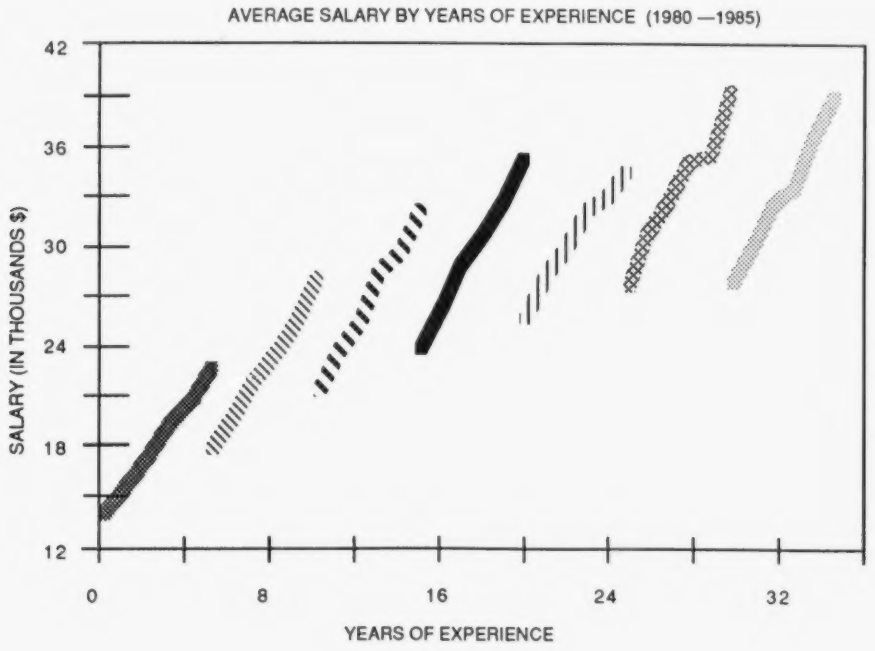

Figure 2

Figure 2 traces the salary increases for several selected experience cohorts from 1980 through 1985. (Although this type of follow up could be done for every unique cohort in 1980, a chart that traced all 40 cohorts from 1980 to 1985 would be too complicated to be easily understood.)

In both figures the same data are being analyzed, but from different perspectives. Figure 1 shows that the average salary has risen more, in nominal dollars, for those with greater experience. Figure 2 shows that the average annual percentage increase has been greater for those at the lower end of the salary schedule than at the upper end.

MR. KANTOR: In normal dollars how does that translate into earning power or purchasing power?

MR. FRETWELL: Those of you who work with the federal Consumer Price Index know that the CPI measures changes in prices over time for a specific region of the country, or for the nation as an average. Unfortunately, there is no way to manipulate CPI data into a measure of the variation in prices between separate areas of the country. For example, the last CPI figure I recall for Metropolitan New York City is about 420, and for Boston, around 360. These indices do not mean that the "cost of living" in New York is 16.7% higher than Boston. (If that is the true difference between the two cities, it is mere chance.) What the different index

numbers do mean is that the cost of living in New York City has risen 16.7% higher than the cost has risen in Boston since the base period was established.

MR. ROSENTHAL (University of California, Berkeley): To what extent have you and/or the Statistics Committee considered or dealt with the people who are not in professional library positions but who are at a very high salary, who have advanced degrees in other fields, and who occupy positions that might well be considered as professional?

MR. FRETWELL: The definition of professional is left to each individual institution. There is no ARL requirement for the MLS, or any other type of certificate. If a particular library identified people, such as you have described, as professionals and included them in the survey, then their salaries have been included in the published tables. Frankly, from the normal salary survey data, we are unable to tell what libraries are doing on this score, although the optional data gathered in the last survey does cast some light on this issue.

MR. ROSENTHAL: This is another potential anomaly reflected in ARL's statistics.

MR. JOHNSON: It also illustrates, Joe, another quandary that the committee is in, namely the degree to which we try to analyze new kinds of positions and the use of core career personnel who are not defined as professionals or do not have library degrees. Should we get into that in some way, shape, or form? To what degree are we interested and willing to do that, and spend the costs, both direct and indirect staff time, to gather new kinds of information. This is something I hope you will consider in relationship to the various specifics in your discussion groups this morning.

MR. McDONALD (University of Connecticut): I can reveal, Gordon, that you have recently visited our institution to share your expertise with us and I believe that you may have, in your pleasant, low-keyed way, understated the possible value to the individual institutions in the use of the figures. It might make it clearer to the membership how the figures could be used to good advantage if you would say a word about your recent meeting with Norm Stevens and the kinds of things that he was interested in discovering by talking with you, that might help to rationalize our situation at the University of Connecticut. Is that too tall an order?

MR. FRETWELL: I feel a little reluctant to say much, because we have just begun to talk about how the data published in the *ARL Statistics* might be used to predict Connecticut's future ranking within ARL. At this time we do not have a concrete course of action that I could describe. Overall, there seems to be a great potential for extracting data for long-range planning. For the most part, my experience has been with directors or personnel staff who have been pursuing an analysis of professional salaries within the context of a peer group which they believe might be useful.

With respect to this type of analysis, I want to make the point that they do not magically make money appear where previously there was none. The data from such an analysis will not convince a university administrator of the need for adding to the library's salary budget unless the person is open to persuasion in the first place. On the other hand, this type of analysis, cast as it is in the framework of an accepted peer group, is difficult to reject from a methodological point of view, and such data can be compelling when an administrator is open minded on the subject. Secondly, it has the advantage of being able to provide a quantitative answer to the cost question when considering major changes in the salary structure of a library.

Every year I perform about half a dozen of these studies, and in one case nearly $100,000 was added to the library's salary budget in order to maintain equity with their peers.

MR. JOHNSON: Thank you, Gordon. All of you here might want to talk to either Kendon or Gordon about the kinds of data they have, what they can do to help you analyze your institution standards, or how you might look at particular problems or issues trying to face in the future.

MR. FRETWELL: I have one more comment to make before you all leave, and it is really in the form of an exhortation. I am sure you all agree that the utility of these statistics is directly proportional to the speed with which they are published. As the years go by, both in the case of the *Annual Salary Survey* and also for the *ARL Statistics*, there seems to be an increasing number of libraries that miss the reporting deadline. It also seems that the time lag before that last one is received grows longer every year. For the 1985 Salary Survey (forms for which were due August 31, 1985), the last one was hand delivered to me on December 21, 1985! By that time staff were coping with the end of the semester rush and the computer was tied up with semester grades, while your poor editor was trying to get out a publication that should have been ready by Thanksgiving. The committee understands that statistical reporting is not any library's top priority, but it seems that an increasing number of libraries are assigning the reporting function to a staff member who takes the entire month of August for vacation, and then has to move the ARL statistical questionnaire to the bottom of the priority list in order to get out work that is essential for the opening of fall semester. The utility of ARL's entire statistical program could be immeasurably improved if the reporting efforts were cranked up enough so that the deadlines were at least approximated if not always met. Thank you.

REPORTS FROM DISCUSSION GROUPS

MR. JOHNSON: I would like to make a few introductory remarks. The first session this afternoon is to share with you the issues and questions that were raised in the discussion groups this morning, and to offer an opportunity to discuss some of these ideas. Our plan is to ask five of the group leaders, who have graciously volunteered for this task, to present reports based on five groupings of issues that we determined when the group leaders met to plan this reporting session. Each of them will give a relatively brief presentation, then we will have some discussion about that topic. The topics that we have organized our presentation around this afternoon are as follows: 1) the *ARL Statistics*; 2) the *ARL Salary Survey*; 3) the ARL Library Index; 4) ideas for new measures that were mentioned in various ways — access, performance, etc.; and, 5) some comments and observations about reporting procedures, timetables, content, etc.

I want to remind you we, the Statistics Committee, are very interested in your comments and in the issues that have been raised. We have obtained copies of the recorder's notes from all of this morning's groups, so even if individual points are not mentioned specifically during this session, we have a record of them for the committee's consideration.

By way of general summary, I want to share with you how the groups responded to our measure of satisfaction with the publications and the Index. The responses varied somewhat from group to group. In some groups, the responses gave rankings as low as 2, while at the same time, there were some groups that had rankings toward 5. (Someone observed that it is rather interesting when you have a scale of 1 to 5, nobody votes 1 or 5, so it ends up 3.) In general, most of the groups, as one might expect, came in the 2 1/2, 3, 4 range. The numbers we received were as follows. One group responded that, in general, they were quite satisfied, with numbers ranging from 3 1/2 to 5. Another group was not quite as optimistic or positive and listed 2 1/2 to 4. Several groups insisted on differentiating their vote between *Statistics* and *Salary Survey*. In one group, the *Statistics* were ranked 3 to 4, while the *Salary Survey* was ranked 4 to 5. In another group, the ranking was 3 1/2 to 5 for *Statistics* and 4+ for *Salary Survey*. Another group gave 2 to 4 when they talked about *Statistics*, but a solid 4 when they talked about the *Salary Survey*. Another group ranked the *Statistics* 2 to 4 and the *Salary Survey* 4 1/2. Another group came out a 3.8 — somebody had a calculator — on the *Salary Survey*, and 2.5 on the *Statistics*. One group was in the 3 1/2 to 4 range, another group 3+ range, and the last one averaged 3 on the *Salary Survey* and 2 on the *Statistics*.

So, you can see that, in general there is somewhat more dissatisfaction expressed with the *Statistics* than with the *Salary Survey*. On the other hand, there is a fair amount of support and acceptance of the *Statistics* and recognition of their importance in value. The sense of the discussions, as I understand, was more along the lines of how we could improve what we have and make the *Statistics* better and more reliable. With that kind of general background, let me then turn to our first presenter, who will talk with us about your responses on the *ARL Statistics*, Dorothy Gregor.

MS. GREGOR (University of California, San Diego): As indicated, the level of satisfaction with the annual *ARL Statistics* is relatively high, somewhere in the 3 to 4 range. Despite our complaints about them, there seems to be a feeling that this is generally a well-developed tool that has considerable value. It has existed for a period of time and, after all, it is the only such tool we have. On the more negative side, the overwhelming concern is with the inconsistency which results from different libraries reporting differently for the same categories. In other words, problems with inconsistent data and lack of firm definition. Another concern built into the gathering of the statistical data and their use is the notion that bigger is somehow better. There was also some concern that because some of us include law and medicine in our holdings and some do not, total volume counts are skewed.

A number of suggestions for improving the *Statistics* were made. Basically, one has to improve the definitions, clarify them so we can indeed report the same thing for the same category. There is also a need to develop some counts of what we called "nontraditional" need — things like optical disks. It was suggested separating out law and medicine statistics to the extent possible. There were a couple of suggestions that we move — and I believe there is some historical precedence for going back and forth — away from volume counts to title counts in order to avoid increasing the numbers of volumes through duplication.

That is once over lightly and we would all be interested in more comments from the audience about some of the particulars. It might be useful to pursue those specific categories that people believe should be clarified. The ones that were mentioned in my group were government documents, serials, total volumes, and microforms.

MR. JOHNSON: One of the things I found interesting in what you commented on, Dorothy, was the business of title count. I dropped in and out of four or five groups this morning, but I did not hear much discussion of it. I did hear it mentioned in one group, but only in passing. There was broader discussion of volumes and microforms and other kinds of material that are represented in our total collections. Somebody indicated there may be enough difference from one collection to another, when you think about duplication versus research and multiple volumes, so that a title count is what we ought to have. There was not a lot of enthusiasm to count titles, but it was mentioned that in libraries where processing is well automated, it is possible to begin to count titles now. Maybe in the future, five years down the road, what seems rather horrendous might become a relatively easy task.

MR. DE GENNARO (University of Pennsylvania): If we went to title count, is the suggestion that that would be in lieu of volume count or in addition? Because if it were in lieu, we do have, as has been said, 80 years of volume count statistics. At least we know what we have there, whereas if we started counting title, it would be, for a long time, rather meaningless data.

MR. JOHNSON: Is there somebody from the group where title counts were discussed that would like to comment?

MR. RUNKLE (University of Chicago): I do not know that I can add any more than has been mentioned. On larger campuses there are many cases of multiple volumes — 10 to 20 copies of the same title — and that does not measure quality. The distinction was made between a library like New York Public with a policy of one copy per title and the large state institutions with large undergraduate populations and many copies of titles.

MS. BATTIN (Columbia University): It seems to me this whole distinction just points to the big problem that we have. Our volume count has been pushed in an organization-based, collection-based view of supporting scholarship. We are now saying, and I agree, that titles are more important than volumes. The next step we want to take, it seems to me, is access to information, and how do we get our statistics to reflect that. I am quite willing to continue counting volumes because we have 80 years of volume counting, as long as we recognize what we are counting and the usefulness of that information. Our problem has been taking the set of statistics and trying to use them to interpret all kinds of activities and quality. That is my concern.

MR. DOUGHERTY (University of Michigan): If we are really concerned about libraries' information reservoirs and we are interested in counting titles instead of volumes, don't we really have to count microforms as intellectual units as opposed to pieces of celluloid?

MR. JOHNSON: There are many heads nodding in agreement behind you, Dick. Peter.

MR. SPYERS-DURAN (Wayne State University): In our group there was considerable discussion about the value of the current factors in the Index. The reason for the value of the Index is that you can actually go back and see where you have come from as a single institution over a period of years. We thought perhaps we ought to propose a notion that if new factors are introduced, they should be started in the Index, too. We wondered if that could be considered as we talk about additional factors as counts and various forms of material.

MR. JOHNSON: I would like to suggest you hold your question until we get to discussion of the Index. Frank?

MR. RODGERS (University of Miami): While I agree with the importance of the title count, let me play devil's advocate for a moment to the volume count. If indeed we have a quantity of users that require multiple copies, then that does indeed affect the quality of access. It is not simply playing quantity for games.

MR. LUCKER (Massachusetts Institute of Technology): I cannot be the only one in this room who mentioned HEGIS Statistics. Nobody has remembered that for years we have been reporting to HEGIS such things as number of titles represented by volumes of books, number of titles represented by units of microform, as well as hours of opening, reference transactions, informational transactions, number of groups lectured to, and a substantial amount of data ARL has never collected. Before I came to Minneapolis, I looked in the file at all the beautiful pink sheets sitting row after row. I do not know whether to keep on collecting these data. I know the last 25 years I have been filling out these forms and sending these data in. The question is whether they are useful or not. We did a title count once as a sample to establish a percentage of titles to volumes that we refined; we have been applying the same percentage for the last ten years. I see the heads nodding again. I know most of us have been reporting these data, so there is a precedent among educational institutions to report such things as titles.

MR. JOHNSON: Other comments? Kendon, could you just remind us of several of these items we have been talking about, trying to clarify and perhaps move in our regular Statistics, such as monograph counts?

MR. STUBBS (University of Virginia): From the Supplementary Statistics?

MR. JOHNSON: Yes.

MR. STUBBS: Actually, the Supplementary Statistics contains about a dozen items this year, and most of them are things that can be found in pretty much the same form on the HEGIS Survey. One of the criteria the committee used in trying to decide what to put on the supplementary questionnaire was whether the data were already being reported to HEGIS. Actually, though some directors might have remembered, most did not know they were reporting these data, and told us they could not report them.

The Supplementary Statistics has about four main categories: collections — including the number of monographs acquired rather than cataloged; a series of troublesome questions on staff by function; salaries, disaggregated for professionals, nonprofessionals and students; and several access questions — some of the simplest, most traditional ones (circulation, reference, number of branch libraries) turned out to be the areas that created the most consternation and unhappiness.

MR. JOHNSON: Thank you. Any other comments? Let me ask Joan Chambers to report on Salary Survey concerns.

MS. CHAMBERS (Colorado State University): As Ted reported earlier, there is a very high level of satisfaction and strong support for the *ARL Salary Survey* data. The ranking on our scale of 1 to 5 generally fell into the 4 to 5 category. It is felt that the data are comparable from institution to institution. The position categories are appropriate. The coverage is comprehensive. The confidence level in the data is very high. Most directors have found the statistics to be useful and have used them successfully.

Salary surveys in general, including the *ARL Salary Survey*, are commonly used and well understood across most campuses. There were, however, some areas of concern expressed. A major one is timeliness of publication. If the data are not published soon after the end of the reporting period, they are not available for budget negotiations during the coming year; some libraries reported they had to conduct their own salary survey for this purpose. Also, for some libraries the regional breakdowns do not adequately reflect cost of living differences, especially in urban areas. There is no fringe benefit data in the *Salary Survey*, and some interest was expressed in having that information included. There were also some problems expressed with the category for non-MLS personnel — the categories were usually found to be too general. Finally, services from ARL to manipulate subsets of the data are not generally known to the membership.

Among the ideas mentioned for improving the *ARL Salary Survey* included publicizing the services available from ARL to manipulate the data, possibly distributing the data in machine-readable form for manipulation in-house — it was thought that might also get the information faster than waiting for it to be published; including fringe benefit data; and refining the categories for non-MLS personnel.

MR. JOHNSON: Does everybody agree? I might mention that we did attempt to gather information on fringe benefits in the Supplementary Statistics. We received many comments about it, and only half of the libraries reporting to the surveys supplied any figures for fringe benefits. Thus I was interested in the suggestions from several groups about the inclusion of fringe benefits, and I would like to hear your thoughts on the matter. How many institutions

include fringe benefit data in your budgets now? The show of hands seems to indicate a significant number, but still a minority.

MR. LUCKER: The range of the percentage of fringe benefits is fairly wide, I believe, from low 20s to the upper 30s. I seem to remember seeing somewhere a percentage of fringe benefits with a very wide range, certainly at least 20 points. And nobody seems to know what is included in that range of fringe benefit numbers.

MR. JOHNSON: There is another problem. Some of us have fringe benefits in the budget, and in many cases it is a budgeted pool figure, not an actual expenditure, as the salaries are. That is the case in my institution. Part of my budget does include fringe benefits, though it is really not what we pay in precisely or what the institution pays in benefits per employee. It is a pool in which money is moved around and developed. Other institutions do not have fringe benefits included in their budgets at all. When you are beginning to talk about a broad array of cost and the kind of information Bill Hubbard was talking about this morning, if it is a cost to the institution to operate and for us to operate our libraries, is there not some way we need to attempt to address it and the disparity of ways that it is handled? It is very difficult to gather and display information on this topic.

MR. ROUSE (Oklahoma State University): This may not be a general or common consideration for all of you, but it certainly is for me in my state. When we list an annual salary, is it for nine months or twelve months? I have that competition in my state and I do not know whether it is common or uncommon within the membership.

MR. JOHNSON: Gordon, can you comment, please?

MR. FRETWELL: The intent of the Salary Survey is to collect the annual salary, which means if the institution normally requires nine months and twelve months is not an option, one then reports the nine month figure as the annual salary. If, however, an institution considers nine months as the minimal requirement and one negotiates a longer contract for 11 or 12 months, or nine months is optional, then one reports the twelve month equivalent. The reason for that difference is to not present a false picture of the annual salary, whether it is beginning or median, in institutions that only permit rank and file, for instance, to work nine months. There is one I can think of in the southwest, where virtually nobody works a twelve-month contract except administrative staff and department heads; the rank and file and non-supervisory staff are on nine-month contracts. To inflate the nine-month salary to a twelve-month equivalent would give an incorrect picture of the salaries.

A MEMBER: I can only say I hope those directions are followed.

MR. WYATT (University of Rochester): I would strongly support the reporting of fringe benefits even though there are lots of problems in those figures. We have them reported to us in different ways, but I believe we should report those which are directly attributable and reportable, so that we get a true picture of the full financial package that librarians have at various institutions.

There are several other things we might do in conjunction with the Salary Survey. For example, not only do we have the nine-, ten-, eleven-, and twelve-month contract problem, we also have several different lengths of our standard work weeks. We probably range from

35 right on up to 40 hours per week. It would be interesting, at least on a one-time basis, to see what sort of work weeks we have throughout the Association.

Another issue that is of particular interest to me right at the moment is recruiting possibilities. This is not — as we discussed it in our group — something that would be done on an ongoing, continuing basis. But I believe it would be occasionally enlightening — particularly right now — for the survey to try to get some handle on recruiting possibilities, the time that it takes to recruit for positions, perhaps by level of positions, so we get a look at the difficulties we are facing in recruiting good people now.

MR. JOHNSON: Thank you. Some of that recruiting discussion was mentioned this noon and we have got information from your notes on that. It was also mentioned that a mechanism other than the Salary Survey might be appropriate for gathering that information.

If there are not any more comments at this point on the Salary Survey, let me ask Ellen Hoffmann to report on issues regarding the ARL Index.

MS. HOFFMANN (University of York): I do not know if my remarks should be called "fool's rush in" or "don't shoot the messenger." There are some things people like about the ARL Index — in fact, there are a number of things. It provides the ability to monitor the performance of a library over time to see what impact changes and conditions have had on a library, and it indicates the position of your library in relation to other libraries. Another thing people like about it is that in the time it has been published, it has remained consistent. And finally, the Index has provided the ability to move the focus of administrators from strictly a collections base to one that includes factors other than collections. For example, in some cases, it has allowed directors to get their administrators to focus particularly on staff.

There are things people disliked about the Index, too. Probably the main problem is that it is too focused on collections. Another is that it is used to make qualitative judgments, and quite often those qualitative judgments are based on the assumption that was referred to before, that "bigger is better." And finally, since some of the data in the ARL Statistics is suspect, the Index, therefore, is suspect itself.

Ideas for ways to improve the Index included giving it a better name — and there were sort of two different proposals in that sense. One was to give it some vague, meaningless name, so it would not seem to be a ranking; the other one was to give it a name that indicates more clearly that it is an index of resources not of quality and not of services. Other ideas to improve the Index were to change the elements; there is some feeling that the selection of elements within the Index is not the best selection that we could use. And finally, in terms of publishing or not publishing the Index, within the groups today, five had a consensus that as long as the Index is calculated it should be published; two groups believed the Index should not be published whether or not it is calculated; two groups were undecided.

A MEMBER: And two groups never heard of it.

MR. JOHNSON: Comments and suggestions? Perhaps we might turn to Peter's question and ask Kendon to comment on his question.

MR. STUBBS: Unfortunately, you cannot just snap your fingers and add new elements to the Index. The Index is the result of analytical process that in effect selects its own variables according to ways in which the data of member libraries are consistent or in which they are not consistent. You cannot just drop in this and that and the other thing.

In the Statistics Committee, we have been discussing access measures, and whether and how they should be reflected in the Index. I have experimented, in recent weeks, with putting in some access measures. Not much happens with the Index because the measures of resources that are already there, so to speak, carry so much weight that the access measures really end up not meaning much. Also, with regard to adding new access measures, you could forget all the old categories such as collections, staff, etc., and make an Index out of just access measures. When you do that, you get a brave new world that I am not sure all of us are going to be ready for. Here are some of the results from an Access Index. Ohio State ranks 5th, Stanford is 9th, MIT is 12th, Chicago is 19th, Princeton tied with Virginia Tech at 39th, and so on. It is not a simple matter.

MR. CHAPIN (Michigan State University): Why don't we refer to this as the ARL Membership Index, since this is why it was established, rather than the ARL Library Index?

MS. GAPEN (University of Wisconsin): I am intrigued by the idea of new names. Let's call it the POOH Measure, Positioning of Optimal Highs.

MR. ATKINSON (University of Illinois): I have no name to add. Since it was a membership index, an index which distinguished one institution from another, the regression analysis that went to form it found any variable that differentiated between institutions. Now, when any two factors are, in fact, the same factor, they will always show up as distinguishing between institutions. If you count the number of people and also count the number of fingers and toes, because one is dependent on the other, both come out as being significant.

My argument with the Index is salaries and people. A correlation between salaries and people is high enough, even though not exact, to give a double hit to that particular issue within the Index because, in fact, it is the same.

MS. GAPEN: I do not know very much about the Index, but we have talked a lot about trying to raise salaries. There are some institutions that have higher salary expenditures than other institutions for the same number of people, and it is useful to know when that is beginning to occur and also when the fringe benefit package upsets the salary so you can get more people to come and work because you can reward them with new requirements in a higher way.

MR. ATKINSON: In fact, the correlation of people and salaries is too high within the Index to make that distinction. It has to be made within the Salary Survey.

MS. GAPEN: Unless salaries go higher in one place or another.

MR. ATKINSON: If the correlation is still too high between people and salary to make both of those a valid factor.

MS. HOFFMANN: This has just reminded me of one more comment I did not want to skip over. Another problem with the Index is that it is too hard to explain.

MR. DOUGHERTY (University of Michigan): I cannot resist commenting — and I hope Russell Shank or Joe Rosenthal will not mind me saying this. I do not know what makes any qualitative term, because Stanford — I forgot about you, David — UCLA, and Berkeley have to spend about $6,000,000 more in salaries in order to pay a staff that Hugh Atkinson can keep at cheaper cost at Illinois. What that has to do with the quality of the library, I do not know.

If that Index were not used as a qualitative measure by some, it would not make any difference. It is a membership index and that is, I believe, what it was designed for. When it is being used as a qualitative measure and you have salaries embedded into it, that raises some questions.

MR. JOHNSON: Kendon, do you want to comment on that?

MR. STUBBS: It is very hard to force a new category of data into the Index. It is easier to drop categories, and I tried that, too, in recent weeks. It turns out the Index is very robust. If you start out dropping salaries from the Index and keep the other variables, there is practically no change at all. In fact, the average change in the ranking is only one place for each library. I then dropped all expenditures, and the average change in ranking turned out to be only two places throughout the Index. You can try various combinations of this kind — drop off collections and personnel and keep only expenditures — and there is still not very much change. The reason is all these things so highly correlate with each other. As Hugh said, one is not much different than the other.

MR. ROSENTHAL (University of California, Berkeley): I will make the observation that it has been found that it is possible to, within a narrow range, manipulate positions and rankings in the Index.

MR. KANTOR (Tantalus, Inc.): I am glad to hear Kendon say in public that you can take away a lot of the variables without making too much change. Something that has bothered me about the Index for a long time is that you have got a lot of things so closely related to each other. It seems to me its value now is for the historical series it represents. For those particular institutions that have been able to build a growth strategy or strategic plan on the Index, that value would be thrown away if we started tinkering with it, even though it might not change rankings very much.

MR. JOHNSON: Kendon, you commented on playing around with access measures, and that, at this point, they seem to have very little effect, if any at all. Is there any likelihood, as time progresses and things change, this will change? Is it going to be so small in the way it is constructed that it makes no difference?

MR. STUBBS: I could not guess.

MR. JOHNSON: Any other questions or comments?

MR. GOVAN (University of North Carolina): I rise to speak to a point I raised this morning. I am really concerned about the principle involved in our calculating and not publishing the Index. We are an organization that is supposed to stand for the free flow of information, to oppose any kind of suppression of information. My own personal feeling is the suppression of the Index may well create more questions than the publication of it.

If, in fact, anyone here, has, as I have, submitted the *Statistics* to their superiors, the fact that it did not include the Index this year raised a number of questions that I find very hard to explain. It seems to me that either we ought to discontinue it or publish it. I find it very embarrassing to have a document circulated that says "confidential, do not distribute." Somebody in the group was saying earlier today that before they had noticed the note, they had xeroxed ten copies. I believe we ought to drop it or if, in fact, we have put the effort into collecting these data, then the institutions that have made that investment ought to have the

full benefit of sharing the information and results. In principle I am against the idea we should do anything to suppress information. I do not see how we can consistently do that.

MR. WYATT: I believe there is a question we must consider before we decide what to do with the Index and whether to publish it. That is, although we hear from many people that they use the Index for a variety of reasons, the basic question is, is the Index useful to ARL as a membership device right now? If it is, then we should retain it. I personally believe that it probably still is useful. We designed this back in the late 1970s. We thought it was useful then, and I believe it still is.

MR. JOHNSON: Right at the moment it is not, because we have a moratorium on memberships.

MR. DOUGHERTY: I would agree with Jim that we should not put ourselves in the position of suppressing information. Therefore, I believe that if we are going to calculate the Index, it should be distributed and consist of all the data that are submitted.

MR. JOHNSON: Any other comments? Merrily Taylor is now going to share some thoughts on new measures — access, quality, and other questions.

MS. TAYLOR (Brown University): There was considerable agreement among all the groups that we had to begin moving to non-collection oriented measures in the *ARL Statistics*, and that this was particularly important in looking at the library of the future where our ability to satisfy the needs of our user would not necessarily be determined by what we held in our own libraries. Therefore, there were quite a number of suggestions for service, access, and qualitative measures for libraries. One person even suggested that it would be nice if we could come up with a user satisfaction index. That statement, however, illustrates another reality that all the groups faced, and that was the complexity that exists in identifying those kind of measures as well as in collecting them, and in coming up with quality access measures that everyone can accept and work with.

However, some of the kinds of suggestions that were made for data that ARL might collect were the hours that libraries are available for service on a weekly basis, the dollars spent in computer-based reference services and databases — and in this particular category it was mentioned that it would be necessary to separate or to make the distinction between libraries which charge users for database searching and those which do not, because that would obviously have an effect on the dollars spent; the number of online databases which our various member libraries make available to their faculty and students; circulation statistics; the percentage of our collections which are cataloged; the number of people using our library facilities; and finally, space, both in terms of user space and collection space.

MR. JOHNSON: Thoughts and reactions to these suggestions?

MR. CARRINGTON (Rice University): With regard to the number of database searched, I believe that would be rather difficult on many campuses, since many searches are being conducted outside of the library.

MR. DE GENNARO (University of Pennsylvania): It seems to me that it may be premature to collect and report statistics on databases and on the number of searches because there is so much change taking place. CD-ROMs are coming in and will replace a lot of online information,

and there are new databases all the time. We need some time before these data can be collected, listed, and compared in a regular way.

MR. JOHNSON: Any other comments or thoughts? New measures and access were topics in many of the discussion groups. It is easy to talk about them in a broad way, but what is it that we can count, when does one start counting, how does one go about trying to develop these measures? Jim?

MR. GOVAN: I guess that is the more important issue, Ted, the one you just identified. Is the committee doing anything along these lines? We can talk about the difficulty of counting searches from locations and so forth. Are we doing anything to get a way of measuring this? I agree with Dick, it may be a bit early. But before too much longer, it is going to be a measurable part of our operations and we are beginning to prepare for it. I do not know whether you mentioned, Merrily, because of the CD-ROMs and so forth, adding local ownership of databases to that list, too.

MR. ROSENTHAL (University of California, Berkeley): Two questions, Kendon. First, what were the elements in the Access Index that you tested? And second, I am not up to date on the previous experience with circulation statistics. What have been the difficulties in considering that as a measure of access?

MR. STUBBS: The access categories were from the Supplementary Statistics — circulation, reference transactions, branch libraries — and the regular Statistics — interlibrary lending and borrowing — and the user measures of undergraduates, graduates, faculty; I do not remember any others at the moment. As for circulation, the data collected in the Supplement seems to behave fairly consistently, but only up to a point, and people have made various criticisms of it. One that we talked about at some length in the committee is the difference between urban and rural universities, where you have a big walk-in crowd in the urban areas as opposed to the rural ones. There are other criticisms; I believe Paul Kantor is much more of an expert on this.

MR. SMITH (University of Minnesota): There are some obvious problems in terms of refocusing our data fundamentally to give more attention to a service that is provided. But, I believe it is very much worth the effort, and while I can understand some sense of caution about waiting a little while longer, I am not convinced by that. One of the things we talked about is the need to have reasonably comparable data over time, and the more we wait the less that will be available to us.

I would also like to suggest there are at least two major reasons for doing this. One that I believe we have very much on our minds is how we see ourselves, each other, and our future; this data would give us some valuable information in those regards. Another issue is how we project ourselves to the rest of the world, especially the world that is of particular concern to us — namely, higher education. We know, for example, that one of the things that has been accomplished by ARL data is to get some attention in higher education circles through *The Chronicle of Higher Education* and so forth. We need to give consideration to that and to do some refocusing of the data on what we see as an important cluster of issues related to service delivery.

MR. LUCKER: A few observations. One is let us not get carried away. I realized a little while ago that it is possible to take any two numbers, divide them, and get a ratio. One example

is to take the total number of square feet in the library and divide it by the number of people and get the density per square foot on the particular day. That was actually used by some people when I was working on space plans. We have to be careful we just do not grab for some numbers.

Secondly, whatever we are going to collect, let's make sure most of us can collect it and collect it relatively easily. We have two totally, directly opposed situations. On one hand, the ARL data are looked at as fairly reliable, as we heard this morning, not only the best there are, but also as consistent data. And on the other hand, we know despite that there is a lot of inconsistency in the data. I do not believe we should create any more monsters. We should first clean up our act: clean up those data which are not reliable, and not create any categories for which we cannot supply data or monitor it effectively. I do not mind sampling and I do not mind guesses, but I believe we should know when the data are the result of sampling and guesses.

I still have not heard to my satisfaction a single example today — or any at other time since I have been in this organization — how one measures "quality." All the things we are talking about are not measures of quality. Output and input, as I said, it is dividing any two numbers. We have to be much more sophisticated. I do not believe we can do it by grabbing a bunch of numbers once a year. We need to spend a lot more time deciding how one measures user satisfaction. It is not pumping out digit surveys. We should spend more time investigating sampling. I know what we are doing here is a lot of free associating. I am still not convinced I have heard a single suggestion yet today to make me believe that this time we are going to measure anything about the quality of the service we are providing; I still believe it is an unanswered question. If we want to address it, I believe we should. It is probably not going to be addressed by continually grabbing and regurgitating numbers.

MR. ATKINSON: In among all voices of moderation, I would like to run counter and point out almost all of the figures — such as items purchased by format, items acquired in other ways, gift and exchange, cataloged fully by format, on short records, circulation, and the like — are all measures which we should be collecting for our own managerial needs. Even a cursory glance at the latest performance measures strike me as giving the clear direction that we should be collecting them if we are not. So, I do not believe it is wrong to require us to do that, since we ought to be anyway.

Lastly, I do have a comment on quality. As Marty Runkle just said, titles and volumes do not measure quality. If you believe quality has something to do with user satisfaction — if a student is not able to borrow a book because it is already out and he needs a second copy — I would argue that issue.

MR. DOUGHERTY: Speaking for the Statistics Committee on the question of access measures, I would just like to assure the membership that the committee has really wrestled with this issue in trying to seek ways in which we can begin to build in some aspects of access or output or performance into the ARL Statistics. I can only tell you, without getting into details, that there are some horrendous definitional problems yet to be resolved. If we are going to be successful in this, we will need the help of every director. Not only must we arrive at a definition we can all accept, we must transmit that information to the various members of the staff who are responsible for collecting the information.

Let me give you an example of one problem that can materialize. On the supplementary questionnaire the first year, and to a certain degree the second year, if you look closely under the functional analysis section, you find that in one midwestern university, the library is apparently run by three people in administration. In a neighboring state, in an institution of

comparable size it takes 21 people; in another midwestern state, an institution again of comparable size, it took 31 1/2 people. Clearly it is a definitional problem. Those are the kinds of anomalies that have to be sorted out.

When I joined the Statistics Committee, I remember listening to those with more experience. What they were really saying is there must be some way to take the message to the directors that if statistics are important, they must be important twelve months a year. And this importance must be transmitted to those on staff who are responsible for gathering the information.

MS. BATTIN: I would like to add another facet to the discussion. We talked a lot about quantity and quality. But I believe relevance is also an issue and something we ought to start thinking about for future interpretation of the kind of data that we need to collect. The relevance issue, it seems to me, goes a bit deeper in that our assumption traditionally — and I believe it was a correct assumption — that counting volumes or titles gave us a certain indication of the breadth and depth of a collection and, therefore, a knowledge source for our scholars. We have seen that change, and what we really need is some research into various disciplines as to what constitutes relevant information sources for them today. Then we can begin to get a handle on whether we are providing scholars with what they need. And without substantial documentation, we would probably find that in the sciences, the desired constellation of information sources that would be very different from those in humanities. It is that kind of approach, it seems to me, we should start thinking about as we begin to look at Statistics.

MS. GAPEN: I agree with Pat. There were about 20 people in the "current interest group" discussion last night on the roles of computer centers and libraries. We decided we saw no trend in those roles, but we talked a great deal about what happens when a computer center person is in charge, when a library person is in charge, and when an academic is in charge of both computing and libraries. It struck me today, in listening to Dr. Hubbard, that what we really want to think about is who is responsible for the budget that relates to information and information policy, which can be a very different question from who is in charge of the computing center and the delivery of that information. And when you begin to think about what the budget spent on information, which I dare say on all of our campuses far exceeds the budget for the library because of the way departments spend money, we are talking about a different set of questions altogether and a different set of responses in terms of who uses that information and why. If we wait to begin to gather that information, it may be over before we know what is happening.

I would take the opposite point of view from what Dick Dougherty said. It may be very hard to gather this data, we could spend ten more years trying to fix up what we have already and it still would not be significantly different. I would venture, however, that if we do not start to gather new data, we will be out on the end of a limb and it will be sawn off before we are done. I would dare say that there are libraries in this country that are run by three administrative staff, and there are libraries run by 31 people, for better or worse, these differences are not due, many times, to how you report the data, it is a difference of style.

MR. DOUGHERTY: The library that reported 31 1/2 administrators has really taken this whole exercise to heart because I noticed it dropped down to 12 in the second Supplementary Statistics. In the case of the functional analysis, this was an example of the data not really being readily available because not many of us have really engaged in a functional analysis so we can accurately allocate cost by function. It was also a question of pure and simple definitional problems. As I have learned from my colleagues on the Statistics Committee, when you engage

in such data collection, over a period of time, the data begin to cleanse themselves so that just because the first year does not look good, we have time to improve the quality of the data if we will just give ourselves that time.

MR. JOHNSON: There was also the questions of using the device of Supplementary Statistics, which apparently came up with very little remarks in groups that decided to assess its value. A number of concerns and complaints not reported on specifically here were mentioned at the planning session. Some of the dissatisfaction is due to the fact that we are groping with measures that have not been used in a number of places, and it is hard to identify whether those are definitional problems. It takes time to work through the various problems, get to the point at which we all count something and are relatively satisfied with the results. Our definitions and numbers evolve over a number of years; that is just the name of the game.

MR. STUDER (Ohio State University): I believe the only way meaningful measurements of "quality" are ever derived is on a local basis. I have heard no one mention, either in small groups or here, the possibility of local surveys on a routine basis. I cannot believe only Ohio State has the capacity to do this. For 12 to 15 years, I would guess, we have been running a poll of about 40 questions twice a year, in the spring and fall quarters. About 400 students and 400 faculty are queried. It is conducted by a social sciences research lab and they guarantee the results at 95 percent confidence level. We have a substantial amount of linear data: about two-thirds of the questions continue over that time, according to what we want to find out. Some are factual, e.g., to learn who is using which libraries and how frequently, the others are really opinion and "quality" reactions, e.g., what do they think of our service. What we have learned is that with rare exceptions, people tell us that in most cases for most purposes most of the time, they believe what they get from the library system is okay. Over time we learn enough about what is not okay to fix it. I do not profess that this is a quick fix or any universal mechanism for running quality control, but it certainly helps. The mechanism must be available to some of the rest of you.

MR. JOHNSON: Thank you, Bill. Any other comments?

MS. TAYLOR: We, too, have started surveying as part of the Public Services Self-Study we did with the Office of Management Studies. We plan to repeat the survey over a period of time. We did identify some areas that needed improvement that we are trying to improve. But one of the things that one has to watch out for in user surveys is that in many cases our users' expectations are not very high because they do not know what might be possible and they settle for too little. As a result, even on a campus where there had been a certain amount of criticism of the library got an overwhelmingly positive response on the survey. Surveys are very valuable, but you have to look at them with squint, I guess.

MR. GETZ (Vanderbilt University): I know Emory uses Paul Kantor's performance measures and we are fooling around with using those, too, doing some interesting things. I would like to ask how many people use the performance measures occasionally.

MR. JOHNSON: I see almost a dozen hands. Thank you. David Laird is going to report on the last area or concern: procedures, timetables, etc.

MR. LAIRD (University of Arizona): Enforcement is what we called it in the planning session. There are two kinds of enforcements we are looking at, but in the interest of time I

am not going to spend a whole lot of time defining things. A primary enforcement issue concerns getting the statistics questionnaire in on time. This has been mentioned today more than once, and everyone ought to be aware of it. There is also the secondary question of interpretation and accuracy. What can we do about people who do not give us the right statistics? We have left this for last, if I can speak for the group, partially because it is either a very dull topic and nobody wants to talk about it, or it is a very sensitive topic and people want to get into heated debate about it.

First of all, I believe I can say there is general interest among the groups in improving both of those categories. Everybody thinks there are problems in both areas and everybody wants them improved. The second point that has been brought up is that there is a need for someone to do more checking on obvious anomalies. We were informed at our planning session today that this year, for the first time, there will definitely be an ARL staff check on anything that seems to be questionable. They will call you and ask to verify data, and that is a step in the right direction. Every year a large number of people seem to believe that if this information is not current, it is not useful. If it is retrospective information, then all we can use it for is historical interest. Thus, that is the real impetus to get the data in on time, promptly published, and available to us.

Some people suggested making it a condition of membership that Statistics data be provided both accurately and on time. Well, in fact, as has been pointed out, it *is* a condition of membership. So then the issue becomes what do we do to someone who does not turn it in on time or who supplies inaccurate data. The answer is we have never done anything to them, except moralize, if you will, and that divides the house. There are those that clearly believe that is exactly what we ought to do; put pressure on institutions that do not report on time and, as colleagues, tell the directors to do it on time and accurately. And there are those who believe that institutions that do not turn Statistics in on time twice in a row should be out of the organization. It would probably only take about one such case and everybody else would get their Statistics in on time. I will leave that for you to debate.

There is a point of view that seems to reflect the attitude that we should not wait on the laggards to publish the information — let's get it out on schedule, and if there are people not included, then so be it. I am sure we will hear from some people, that if we do that, very quickly the whole program falls apart, allowing people to begin selective both about years or categories they do not want to submit; I will leave someone else to argue that side.

Two quick concluding points. Sampling technique was mentioned a little bit earlier, and that seems to be a semi-popular idea. Could we get the same results not by collecting every year in every category from every library, but by setting up sampling techniques and doing it only every other year, every fifth year in some categories, etc. Would we get the same results and would it then be just as useful to you?

And finally, as Dick already said, the groups clearly felt strongly that directors should get involved in how the Statistics are reported. If you are not going to do it yourself, you ought to monitor it so that the staff members collecting the data know that it is important to you and to the Association.

MR. JOHNSON: Thank you, David. Any comments? Let me offer just a couple of observations, if I may. The group leaders elected me to try to give some kind of a summary of what has gone before, and I believe that is rather impossible. Maybe a few observations are in order, and a comment or two about the committee and what we would like to try to do.

First of all, I believe there is a general interest and concern in continuing to work on a regular, ongoing basis on definition clarity, consistency, and anomalies. It often happens when we check on an anomaly or a strange number, we discover something happened accidentally

— two digits were transposed or something of that nature. In most cases it is relatively quick and easy to clean that up. But as we continue to work for more preciseness in the statistics as a whole, one of the difficulties we have is as you change, or revise, or improve a definition, you begin to move away from the historical series of data into a new and changing area. That is the way it is, and we must deal with that as we make judgments about when to make changes and when not, and what is important.

It is important to remind ourselves of one of the challenges that Bill Hubbard brought us this morning. He mentioned we ought to be concerned in the libraries that we are essentially losing market share, in his terms, in a growing market. Is that not something to be concerned about? A lot of suggestions and ideas have been offered to us — surveys, sampling, changing methods. I hope we have challenged your thinking, made you more aware, perhaps, than you have been, or maybe more than you want to be, about both the strengths and positive factors in regard to data and statistics we collect, as well as some of the problems. We hope you will help us with ideas and suggestions as we proceed to wrestle with some of these questions and issues.

The questions are tough. It is hard to determine when to introduce something new, as we all have only so much effort, so many resources — and the Statistics Committee is always running out of time on the agenda as we keep working with the ongoing Statistics and also wrestle some of the new questions, ideas, and suggestions. We do need your examples. I appreciate some have been made today and invite you to send us ideas and suggestions — the more specific the better — of things that you are doing in your own library or you find useful.

One of the groups spent some time talking about the problem of objectives and purpose and uses of the Statistics. This is an important idea to leave you with and perhaps suggest that we continue the discussion and debate about what those are and again clarify what we need to use to manage well and effectively and what, in turn, we can collect. In many cases, we are collecting a lot more data at home than we have acknowledged, as Hugh indicates, or if we are not, we ought to start worrying about that. Jim, did you have a question?

MR. WYATT: Before we break, one thing should be said, regardless of what we think about the Statistics, Index, the Salary Survey, and so forth. There are two people here today who spend a lot of time working with them and we probably have not adequately expressed the Association's appreciation to Kendon Stubbs and Gordon Fretwell for the work they do. I believe we should do that now.

MR. JOHNSON: Well spoken, Jim. Thank you.

USING DATA FOR MANAGING AND RESEARCH

Introduction

MR. JOHNSON: In our final session today, we will turn our attention to using data both for research and for management. I would like to introduce our three panelists for this final session at the outset, and then we will move through their presentations, with time for some discussion after each one.

First we are going to hear from Paul Kantor, who is President of Tantalus, Inc. Paul is a physicist by training. He is a teacher and a consultant, and has worked with us at Emory University from time to time with excellent results. He is going to talk about some of the types of elements that can be measured, some of the methodologies and ways they might be measured, and how we might use them.

Paul Peters, our next speaker, is the Assistant Librarian for Systems and Planning at Columbia University. I had the pleasure of getting more closely acquainted with Paul when he came to Emory to assist Susan Jurow as one of the presenters of the OMS Analytical Skills Institute. Paul is a person who can make statistics work or help people figure out how to use statistics even when they have not got the foggiest idea of what he is talking about; I can tell you from that workshop. He is going to talk about creative uses of data for managing. We are back to the beginning — lies, damn lies . . . .

Finally, Millicent Abell, the University Librarian at Yale University, is going to offer her thoughts and ideas, summarizing some of the issues and opportunities that have been mentioned throughout the day.

THE RESEARCHER'S VIEWPOINT

Paul B. Kantor
Tantalus, Inc.

For the past 22 months, every time I get up to talk the audience has groaned and prepared themselves for tiresome tables of statistical data and cost data. I am happy to announce that everything I have had to say about that is now available in an article called "Three Studies of Library Costs," which appears in volume 5 of *Advances in Library Management and Organization*. Many of the key findings are also summarized in *The Economics of Research Libraries* by Martin Cummings. Today, I would like to take a few minutes to tell you how I would boil all of that information down, and to talk about the costs of innovation and the costs of quality.

The fact that we are prepared to talk about costs of process and costs of quality presumes large strides that ARL has taken towards the development and utilization of cost measures will continue. As it continues, directors of libraries will be in a situation closer to that of directors in production or service industries. Those directors have available quarterly, monthly, and, in fast moving industries, even weekly and daily reports on current levels of activity and current costs of those activities. They have learned to monitor those costs, and to anticipate and insist upon decreases in costs as a product or process becomes more familiar.

Let's begin with a simple picture that shows the trade off between quality and quantity that exists when budget (and everything else) remains fixed. Without specifying the scale on which either quantity or quality is measured, we can say that the general effect of the trade off is as shown by the straight lines in Figure 1. At a given fixed cost, more quantity means less quality and vice versa, while at a lower cost one has to give up both quantity and quality.

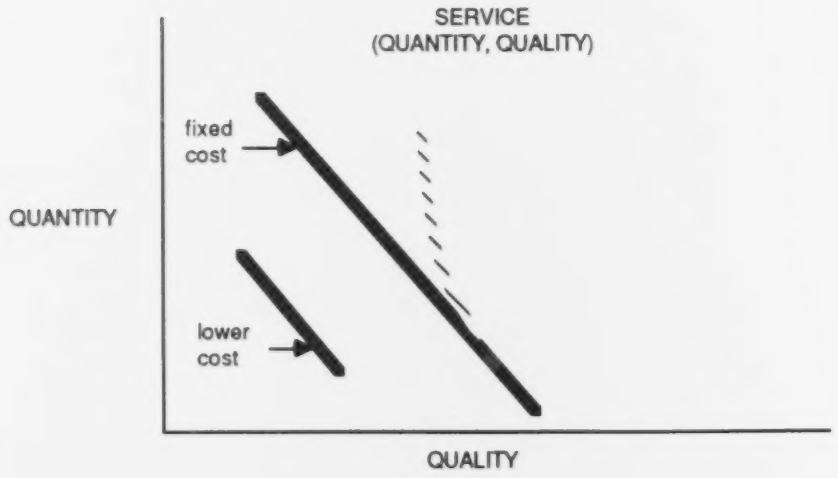

Figure 1

However, there is an interesting story to be told about the scales on this graph. Let's look first at the scale for measuring quantity. In Figure 2 we show three possibilities. In each case distance along the scale is taken to represent cost. In the first case, equal steps up the scale represent equal increases in quantity. Whatever the service may be, producing 3,000 units of it will cost three times as much as producing 1,000 units, and so forth. The middle scale shows the situation when there are "Diseconomies of Scale." Using the cost of producing 1,000 as a basic unit, we see that for three times that cost we can only produce 2,900 units, for seven times that cost we can only produce 5,400 units, and so forth.

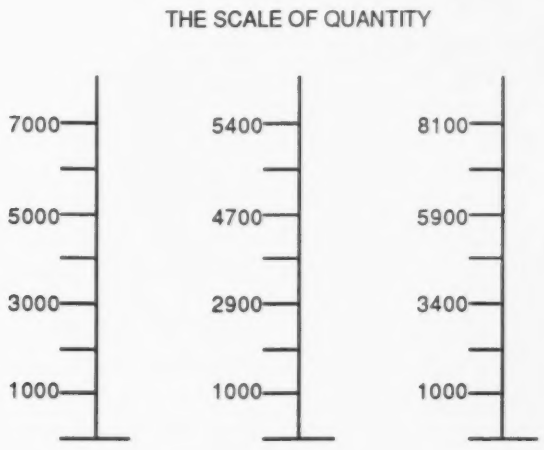

Figure 2

The third scale shows the more pleasant situation called "Economies of Scale" in which at three times the basic cost we are able to produce 3,400 units of the product and so forth.

The question of whether libraries show economies or diseconomies of scale is, on both theoretical and empirical grounds, still somewhat open. Theoretically, one may argue that there ought to be diseconomies of scale because storing and retrieving items in larger collections is bound to be more expensive, per item, than storing them in a shoe box. On the other hand, much of the work in a library, particularly in the area of technical services, is well organized production work with a well defined work flow. It should thus benefit from the same economies of scale that are found in all types of industry.

The evidence is a little bit confusing. Studies of technical costs seem to show that unit costs are lower at larger institutions. Studies of the overall cost of operation compared to available measures of output seem to show that costs are higher at larger institutions (Kantor)[1] and, on the other hand, lower at larger institutions (Cooper)[2]. Our present best understanding of this discrepancy is that Kantor's study was based upon single library units, such as the branches of a major research library. Cooper's study considered the statistics for the library as a whole. Given the fact that the largest ARL libraries are made of a great many individual branches, it may well be that the economy of scale that Cooper finds is due to the fact that these large libraries are organized into a number of small units, each of which exhibits the kind of economy suggested by Kantor's work.

This provides some economic incentive for reconsidering the centralization focus of a few years ago, as opposed to the distributed library.

I would like to turn now to the problem of putting a scale to the quality variable. This is considerably more difficult, not only because quality is rather hard to measure, but because there is at present no available empirical data on the costs of providing quality.

To begin with, with whom should we compare a library? A library sits generally within a university or a research institution and what we mean by acceptable levels of performance is going to depend on what we choose for comparison. In Exhibit 3, we show an entirely hypothetical set of performance data for a purchasing department. In some people's minds, the library ought to be compared with the purchasing deparment because what it does is buy books. A purchasing department, let us say, orders the right item 95% of the time, gets it delivered on time 95% of the time, and locally delivers it to the right department 95% of the time. These figures combined (by essentially the same arguments that are used in studying the availability of library materials) to an unimpressive 81.2%. If we throw in one more quality figure, asking whether purchasing actually managed to buy the item at the best price, we might, for example, reduce this by another 82% winding up with only a two-thirds chance that the purchasing function has performed ideally.

Purchasing

Right order	95%	
On time	90%	
Delivered correctly	95%	81.2%
Best price	82%	66.6%

Figure 3

Thus, if we are going to compare the library with an essentially mechanical function such as purchasing, we may be aiming to achieve standards somewhere in the 65% to 80% range. On the other hand, since the work at the library has a significant intellectual component, we might compare it with grant proposal effectiveness. As shown in Figure 4, the national average of grant proposal effectiveness is something like a 25% success rate, and although to the best of my knowledge figures are not published, I would conjecture that at a top institution this rises to 35% while at a lesser institution it drops to 15% or less.

Grant proposal effectiveness

National average	25%
Top institution	35%
Lesser institution	15%

Figure 4

The point is, we need a scale for quality that shows how hard it is to go from 15 to 25 to 35, or from 67 to 81 to 90. The best solution that I have found is a scale of quality such as the one shown in Figure 5. The basic unit is the 50% point. That is the level at which the library,

or any other operation, achieves 50% of the agreed upon ideal performance. As we go up the scale, we see that the increase is not in fixed units (it could not be because we would immediately reach 100% by striving for 150%) instead it goes up to successive fractions 2/3, 3/4, and so forth. It is clear that even if the cost (which is represented by distance up the scale) grows to infinity, performance will still be approaching 100 percent. This is also shown by the increase in percentage of performance achieved by each fixed step. We see in Figure 5 that these decrease from 16.7 to 8.3 to 5 to 3.3, and so forth.

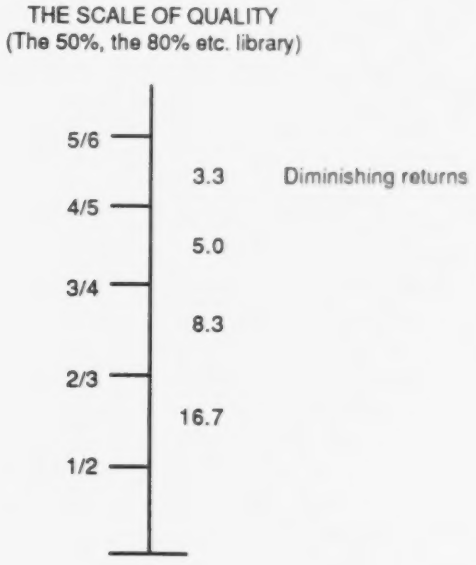

Figure 5

The Production Learning Phenomenon

Now let's turn to the general experience of production in service industries. Whether people are manufacturing wristwatches or airplanes, they find that the cost per unit produced decreases steadily as more and more units are produced. This phenomenon is called the production learning phenomenon, and it can be graphed (using suitable scales that we will not go into here) so that it looks like a decreasing straight line.

In recent work, my colleague Bill Zangwill and I have been able to show that this production learning phenomenon has its origins in the fact that individual people learn to do individual tasks. Since production learning is related to task learning, the drop in production costs for any activity stops only when there is no more learning. In industry, it never stops because there is what might be called process learning or management learning. Tasks are reorganized, new materials are used, new technology is used, new management techniques are introduced,

and so forth. Every month, every week, possibly even every day there is something new about the task to be learned and so learning continues.

In the library, it must be admitted that there are too many tasks, procedures, and management techniques that have bottomed out. They have reached the point where no more learning is taking place, and costs cannot be controlled.

We can try to sum up the relationship between changes in procedure and the cost of quality by a graph like that shown in Figure 6. We retain our cost of quality scale on the left but we now label it "brawn." It represents the cost of increasing quality with no change in the way we do things. Across the horizontal axis we put some hard to define quality that we will call "brains." The effect of brains is to introduce new procedures and new technology and to squeeze the cost scale down. It still has that same infuriating property of diminishing returns, but at a given cost level with new procedures and new policies, you can get farther up the quality scale for the same amount of cost. The horizontal dotted line shows that with two stages of improvement one could go from 3/4 performance (75%) to 5/6 performance with only a small increase in cost. That increase is represented by the cross-hatched portion at the bottom of the figure, and represents the fact that there are always one time change-over and training costs associated with new procedures.

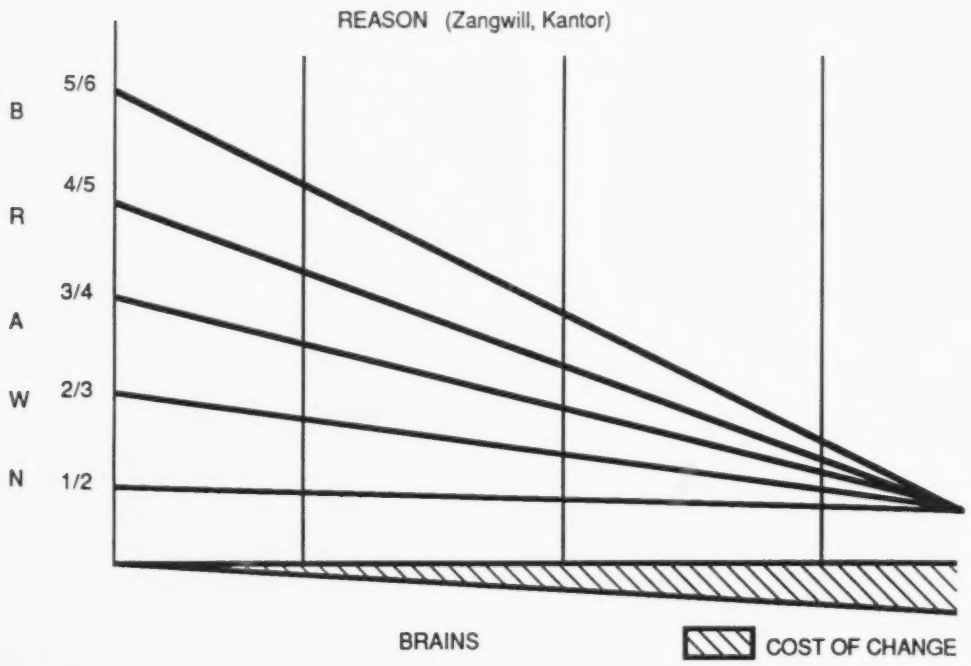

Figure 6

The picture should make it clear that the investment in change can provide a way out of the cost quality trap in which we find ourselves. Going back to Figure 1, it provides a way in which costs can be freed up for the production of quantity, without reduction in quality and change the possibilities. This is shown by the dotted line in Figure 1.

What Are the Implications of This for Libraries?

Whenever you have people doing something the same way they did it five years ago, there is a window of opportunity. The effective library director must be looking for that window, and looking for middle managers who are able to see through the window, and seize the opportunity for change. The director can further support this by being prepared for change, receptive to change, and creating a climate in which the costs of change are regarded as normal operating expense.

I can give one simple example based on a study that I did for the Council on Library Resources. In studying the impact of computers on the processing and cataloging of books, I generally found computers tucked into work areas that had been designed for an older, manual, work flow. In some places I actually found a "computer area," where all the computers had been assembled regardless of their function. This would no doubt make an auditor happy, since when he came to check on how the "computer line in the budget" was being spent, he would only have to visit one place. That really represents the influence of line accounting at its worst. It is a kind of arrangement that does not make the best use of the computer, or of the human resources. Further changes and improvements can surely be achieved by rethinking the work flow and the processes, and reorganizing them so that the computer and the materials are distributed in a way that makes the people and the machines most productive.

Bill Zangwill frequently presents workshops in industry where he emphasizes the importance of innovation by saying that in business one must "innovate or die." I believe the situation in modern research libraries is not at all different.

References:

1. Kantor, Paul B., "Three Studies of the Economics of Academic Libraries," *Advances in Library Administration and Organization* 5 (Spring 1986): 221-286.
2. Cooper, Michael D., "Economics of Scale in Large Academic Libraries," *Library and Information Science Research* 6 (1984): 321-333.

THE MANAGER'S VIEWPOINT

Paul Peters
Columbia University

MR. PETERS: When Ted talked to me originally about this program, he asked me to formulate my remarks from the point of view of a manager, to try to convey a sense of how data could be used creatively in library organizations, and to get the group charged up and ready to go out into the world and do something. I have decided to take a chance with the first two assignments, but let me clarify right now that I believe this group needs no assistance from me on the third.

On the question of taking a manager's point of view, I was dismayed at how much time I spent trying to figure out what it meant to manage and to be a manager. I eventually realized all Ted has asked me to do is tell a couple of stories from my personal experience. So, with your permission, I will simply proclaim myself to be I am a manager and I will structure my talk around some real and, I hope, relevant personal experiences having to do data gathering, data analysis, and data use in information organizations.

I say that I am a manager because I am the chief systems officer for a major research library. For purposes of discussion, I would like to distinguish my point of view from the point of view that I believe most of you have — in fact, all of you have — that of the director. Also, I am distinguishing my point of view from that of a worker in a library organization, again for purposes of discussion. In the interest of providing a definition, I believe that my role as a manager is to take on a principal and singular responsibility for some particular aspects of my organization's performance and its capacity. Every day I come to work worrying specifically about a number of performance variables and a number of capacity variables that fall within my area of responsibility. It is also the case that I spend a good deal of time acting out a corporate responsibility with other library officers having to do with overall performance and capacity. But what I mean by "manager," for the purpose of this talk, is the person like myself whose primary point of view is that of a single aspect of the organization, such as systems, no matter how broad the organization's overall performance and capacity.

We also have the problem of dealing with the definition of data. I went to school in information sciences in the 1960s; I have not been back since. Whenever I come close to the word "data" I sort of flinch. In the '60s it was very popular to try to distinguish "data" from "information" from "wisdom" from "knowledge" and I certainly do not want to spend any time on those kinds of scholastic distinctions. At the same time, I do not want to accept every observation that anyone could possibly make as worthy of being called "data."

As a manager, I believe what constitutes data is one of the most serious judgments I have to make. The definition I bring forward for the purpose of my talk today is, and I hope this stimulates some discussion, one that views data as an organizational resource that we establish and develop so that we can know our performance and capacity in order to evaluate and plan for the future. I view data as one of the two major resources for the purpose of observing, evaluating, and planning for an organization; the other one, to my way of thinking, is ideology (philosophy, the mission of the organization, and so forth). Both need to be planned, cultivated, and developed.

With these preliminaries said, what I plan to do for the remainder of my talk is to cover five ways that I personally use data on a daily basis. Four I recommend to everyone; the fifth all managers probably do on a daily basis and I wish they would stop. I also have three exemplary object lessons, things that have happened to me during my career that taught me a good deal about how data are used and misused. (One of these three things happened very recently, the NASA Challenger disaster. It provides a particularly powerful indication of how data are used and misused in organizations.) And finally, I would like to offer five conclusions that I have drawn on the basis of this experience and subject area.

I would also like to state that for a person like myself, talking about data is somewhat like talking about the air in my kitchen; it is something I cannot do without, it sometimes smells good and it sometimes smells bad, and whenever it smells bad I spend a lot of time trying to find out exactly why. This is a point of view I bring to bear on this paper.

I use data on a daily basis in several ways. The first use is to meet a requirement, usually an externally-imposed one. A favorite at Columbia lately has been a call from OMB for us to do our circular A-21 study to establish the overhead rate attributable to library services. It seems to always come during the final exam period — I wish there was a reason for that. This term we were successful in delaying this study until July, and it remains to be seen whether that is better or worse for us in terms of the outcome of that study.

One of the main reasons why I collect and use data is to meet such requirements, and one of the major problems I find myself facing whenever I have to do this is the definitional problem. I very seldom have a good feeling about what people mean when they are asking me to tell them certain things on these kinds of questionnaires. I regret to say this can be said as well about a number of questionnaires that have come around to the ARL list. I am not speaking of the major efforts that have undergone much scrutiny today, but of other, more collateral studies, more narrow in scope. I always try to fill these out, and I always try to get them back on time. I believe to do so is the only way to learn the things we need to learn. But, I footnote them extensively. I am always circling and saying by "personal computer, I mean . . . " and then I cover everything from a word processor to other more general function equipment.

The major problem that I face when meeting externally-mandated requests for data is the definitional problem, the time frame problem I have already mentioned not be exceptional. There is also a scope problem: I hardly ever get an externally-mandated request for data that has a narrow scope; it is always as comprehensive as possible. These three problems — definition, scope, and time frame — interact to make the responses to externally-imposed requirements for data gathering, analysis, and use very difficult and problematic. I have nothing "bad" to say about having to meet these requirements. They have their place in life so this is not the one use of data that I would eliminate were I able to eliminate any. I just wish we could improve how such things are done.

The second area for use of data is to formulate a plan. Now, we are starting to get into an area that I personally enjoy. Here we are trying to bring data to bear on what is usually an externally *motivated* situation. For instance, we want to try to explain to a budget officer what we are going to be doing for the next five years and what resources we are going to need to do it. I regard this to be one of the more pleasurable professional activities I do, because it is an exercise in speculation and imagination, and the data gathering, analysis, and use is often in a very favorable area. I wish I could say the same thing for the problem my director faces when she carries such a plan to the budget officer; that is a much more difficult situation. Nonetheless, I regard the data collection, analysis, and use to be a very pleasurable activity when I am formulating a plan. Still, there are certain problems. Frequently, the goals and objectives that activate the plan are not clearly known. This makes bringing data to bear upon

goals and objectives extremely difficult, if not impossible. If you do not know the goals and objectives, you are pretty much left out in the cold when it comes to the variables; exactly what needs to be measured in order to determine what it will take us to do to get from "here" to "there" is not a very easy thing to figure out when you do not know where "there" is. There also is the question of methods. Do we really have to count everything in an area to know exactly what it is going to cost or are other methods of sampling, estimating, simulation, etc. sufficient to formulate a viable plan?

Finally, the biggest problem I face with plans is that they are always based upon assumptions. (I can never resist the impulse to remind everyone that the word "assume" is made up out of the words "ass", "u", and "me".) Assumptions are the biggest obstacle to good planning. We frequently assume that "all things will be equal" in precisely those areas in which things change suddenly and are greatly out of control. This concludes my thoughts on what it means to collect data in order to formulate a plan.

The third use of data, and this is the one that I believe most occupies managers, is bringing data to bear on the diagnosis of a problem. By "problem" I mean something that is internally imposed, something that you are managing is suddenly going wrong or it appears to be going wrong. You can feel this in various ways. Some ways are pretty undeniable because they are brought to you by a person in your office who clearly thinks that a problem has come up. Others start to reveal themselves through certain variances in routine statics or reports of unexplained phenomena. You have to bring data to bear on these internally-imposed situations and I call this diagnosing a problem.

The biggest obstacle which I face, as a manager, in diagnosing problems is "solution-mindedness." My inclination is to want to solve a problem, the last thing I want to do is study a problem. It takes a long time to overcome the instinct to solve the problem before you really understand what it is. And my experience must be the same as many of yours. Frequently, the first definition of a problem is not really the best definition of a problem. I also find that there is a collateral challenge of perspective, shrinking so you no longer can see anything but the problem. This, too, is a manifestation of the inertia one feels when faced with a problem that holds one back from collecting data. Unfortunately, and rather obviously, when you are diagnosing a problem there is frequently a heightened sense of urgency, with interested parties one and all saying, "we do not have time to study this, we just need to solve it." Nonetheless, data are invaluable for diagnosing problems.

Fourth, much more briefly, data are brought to bear on making decisions. These are usually internally-motivated sorts of things. From a managerial point of view, I want three or four well-defined alternatives and need to bring cost and scheduling data to bear upon these alternatives. I need to decide between competing alternatives to a known, desired end.

One of the decision-making problems I face all the time, is that there is frequently a favored approach and I run the risk of collecting data only about this favored approach. Need I tell you there is also a problem with limited numbers of alternatives, usually four or five alternatives on the table, and the tendency is to start deciding between them instead of trying to sort out whether there is a fifth or sixth or seventh alternative. Finally, under the decision category, there is a tendency to delay a decision until all the data are in and one of the options is a sure thing. I am sure none of you has ever faced *that* problem. It is a particular challenge to me because many people I work with like to have sure things and frequently you cannot sort that out solely on the basis of data.

I said there was a fifth area in which I use data on a daily basis that I wish I could do without and I have trouble labeling this area, so I will just quickly refer to it as the area of "keeping in touch." A lot of people feel the best way to keep in touch is to put into place a data collection mechanism that routinely brings in large quantities of data so that they can

review them. My experience with this is that it is not a good way to keep in touch. My experience is that keeping in touch with people who are in touch is a good way to keep in touch. Data do not qualify as a way to keep in touch; they certainly are not worth the amount of money it takes to bring them forward. One of my major findings in this area is that data collection often defeats the purpose. I believe that no matter how well intentioned the desire to keep in touch through data may be, such mechanisms frequently become transformed from information processes into control processes, thereby defeating the value of trying to keep in touch. It never works anyway.

My characterization of the four uses of data that I like and the one I do not like, is that the four I like are strongly motivated by organizational concerns. There are things that *need* to be done whereas keeping in touch is motivated by more diffuse, less clear, and, therefore, more easily misdirected concerns.

Now, what I would like to do is turn your attention to a couple of object lessons. The first one takes me back to 1973 and it pertains to an analysis of medical records and health care statistics reporting that I had an opportunity to do in the Central African region; in particular, the countries of Chad, Cameroon, and the Central African Republic. This is not that far afield because what I was asked to do by the World Health Organization was to provide them with an assessment of the quality of data being submitted on a regular (annual) basis, in most cases by the Ministry of Health of these countries.

When I set out for the Central African Republic, I knew it was a country that has about 60 miles of paved highway but files a 300-page annual statistical report on morbidity and mortality every year. I had to spend two weeks trying to come to grips with exactly where these data came from. I will never forget the day I found myself in the Planning and Statistics Office of the Ministry of Health, and asked the office chief my big question, "where did these data come from?" It may not surprise some of you to learn that he gave me a form — that was his entire answer. He showed me the blank form from which he compiles the data. I said, "No, where did the data come from?" He said, "It comes from the form." Has this ever happened to any of you? It turned out, in my case, that I had to spend two weeks trying to answer that simple question and what I found was fascinating. What I learned, in summary form in the interest of time, that if you ask for data in an organization you are going to get it; it is going to show up on a regular basis, even though people who fill it out may not know what they are filling out. In the Central African Republic case, there were 148 separate diagnoses of disease conditions provided for on this form, and I was eventually able to convey my summary judgment by pointing out that although there were 15 categories that were "other," over 70% of the data was being reported in those "other" categories. So, after finding out where these data were coming from, I had to find a way to convey that to the parties involved. One of the major lessons of this experience was people mistaking the instrument for the reality from which the instrument is supposed to arise.

Closer to home, I would like to talk about our circulation system. I am one of the few people in the United States who likes to talk about circulation systems and, in particular, I would like to talk about the circulation system that was brought into being at Columbia sometime around 1968, for which it is one of the prestigious honors of my office to continue to maintain.

I want to talk about this not just to get a good laugh, but because as we look forward to an improved technology for managing our circulation activity, we have been able to make major changes in the kinds of statistical problems that are addressed through our current system. As with most systems, our system has no problem reporting how many of this and how many of that (faculty charges, for instance). But, these numbers are sort of in the same category as morbility and mortality data in Central Africa. They come forward, usually regularly,

primarily because computers are good at that sort of thing and almost never forget that a new month has started and, therefore, it is time to print a report, which triggers the photocopying of a report — you know the routine.

What we have tried to achieve instead is more flexibility and relevancy in the use of the system, not just the regular reports, but a greater sense of efficacy on the part of the circulation staff so that they are in a better position to ask questions about the circulation activity. In response, they ask questions like "how many recalls do we issue are back within 21 days?" and "what accounts for the ones that are not back within 21 days?" "what percentage of them are held by faculty?" and so forth. You can see where this is going. This is a qualitatively different reality in terms of creative uses of data than just reporting this month there were so many charges to university officers. There is quite an array of new uses of data coming out of the system that are characterized by being able to have an idea and being able to go to the system and extract the data from the system rather than always trying to use something that is routinely produced. I believe this is an important lesson.

The last object lesson I would like to call attention to is this horrible situation about which the country has been worried for over a month now: with what happened to the Challenger, and how it is possible that this symbol of American technology could literally go up in smoke in such a dramatic fashion? There has been quite a lot said and written about this already. Two of the things to which I would like to call attention I have seen in almost all the accounts. One is that it is now very clear that the right information was known but not by the right people. This is the common denominator of more than the Challenger disaster. The second is that there was a clear disposition toward action. Such a disposition is not an unqualified good. I have my own thoughts as to why these two things could lead to such a horrible result, but I recently read an article published by Charles Peters in the April issue of *Washington Monthly*, where he reminded me that when bad news does not go up, when bad news stays down at the managerial level or below, it is not only fear of reprisal that keeps it down, very often it is because very bright people are trying to solve problems with compelling disposition toward action.

It is widely known that the NASA management is very successful at communicating its objectives and sense of urgency to its workers. What it has not been successful at doing is communicating definitions of the essential facts by which performance in the organization will be measured. This leaves the managers in a place with a charged up, highly motivated sense of urgency and a strong career-oriented desire to make things work while putting top management in the position of reading in the paper that the whole project has just blown up. And there is something about this story that rings very true to my personal experience.

Let me rush to bring these remarks to a close, by simply presenting my conclusions without spending much more additional time flushing them out so that we can get on to Penny's remarks. I offer five conclusions for your reflection. First, data and statistics are an important but costly means of organizational expression and communication. In my mind, the motivation for data gathering and statistical reporting is organizational, expression and communication efforts should be designed with that objective in mind. Second, data gathering, analysis, and reporting are iterative processes. It is okay to study the problem you know about and to broaden your process at a later date, and there is no need to attempt large scale studies to define everything. Selectivity in data gathering, collection, analysis, and reporting is a high organizational value and usually the quality of the results is improved.

Third, and this point has been made a number of times, particularly this afternoon, sampling and experimentation are extremely effective data gathering methods and their widespread adoption and routine use in library research and operations would provide tremendous benefits. We do not have to count everything if we understand the technology of sampling and

experimentation. Fourth, sophisticated data gathering and analysis tools are worth the investment given, and staff learn quickly to make excellent use of such tools.

Fifth, and I would like to close with this point, there is, for every organization, a relatively small set of data that should be routinely collected, thoroughly discussed, and rigorously studied. In my opinion, that relatively small set of data should be linked to the value system of the library in question, and that value system — what the library holds to be important — should be routinely called to attention by the submission of this data, and that the people who submit the data should see that actions are regularly formulated on the basis of those data. In my opinion, there is no need for that small set of data to cover the gambit of everything that is important to the organization. It is just that small set on which the organizational culture is basing its most important actions.

My final thought is: Do not focus on counting the data, focus on the data that counts.

MR. JOHNSON: Are there any comments or questions for Paul?

MR. KANTOR: I am particularly struck by your comments on the difficulty of resolving the ambiguity that arises in a questionnaire. I do not know how many times I have had to resolve an ambiguity in what I thought was a perfectly clear question by simply explaining what was going to be done with the data. As soon as you do that, it is usually quite clear to the person who is filling it out what you mean. We sometimes get in trouble by setting out to select data before we are sure what is going to be done with them and we cannot answer that question.

THE DIRECTOR'S VIEWPOINT

Millicent D. Abell
Yale University

MS. ABELL: Like you, I would like to engage both of these gentlemen in a substantial discussion, but I recognize our collective weariness so I will plow ahead. Ted has given me only a few minutes in which to summarize the notions arising out of today's presentation. I am to abstract, to generalize, to summarize, and to provoke. However, not only do I recognize your collective weariness, I also recognize your penchant for drawing your own conclusions. Therefore, I am going to be very brief; we can rely on the *Minutes* for a reminder of the many provocative notions offered today.

What we have heard today are numerous lies, a few damned lies, and a lot of statistics. My statistical summary of the session consists of eight statistical categories. I heard 13 discrete levels of satisfaction on the general statistics and salary data, 3 cases of incipient flu, 16 problems with the data currently collected by ARL, 32 suggestions for new data categories, 60 miles of paved road in Chad, 64 ways in which data are collected, 12 libraries using Kantor's methodology, and 15 expressions of regret on missing the Prairie Home Companion. From some sources, not Bill Hubbard, I also learned what I call the organic formula of goodness. For example, if you take 1,050,244 apples, divide them by 3,442,351 oranges, and multiply the answer by 100, you get 305 units of goodness with a remainder of 1/10 lemon.

An extensive range of information and ideas has been presented to us today from a remarkably fine group of speakers, one of the best we have been treated to in some time. It seems to me that there were two particularly important themes or sets of issues which surfaced throughout the presentations. They are issues of clarity and issues of vision. On the question of clarity: it is crucially important that we try to be clear about why we are collecting data, the uses to which they will be put, how we collect the data, and what the potential is for damage to our case-making by muddling the collection and the uses of data. In some cases it is not muddling at all, of course, but deliberate obfuscation. I recall as some of you do, a former vice president of a distinguished multiuniversity on the West Coast who, in either a pragmatic or a cynical frame of mind, frequently observed, "The process of resource acquisition is decoupled from the process of resource allocation." Many of us may engage in such an exercise.

At any rate, we need to recognize, as Paul and others have described, the many uses of data, whether they be for advocacy, justification, or internal analysis. We use data externally to rationalize decisions already made, to illustrate useful comparisons, and to document competitive positions. We use data internally to monitor and improve performance, to support strategic planning, and to provide basis for allocation and reallocation. One of our most common problems is the confusion of these purposes. We need to articulate, as Bill Hubbard stated, our objectives as managers and leaders, and then to define and collect the selected data by appropriate means. Among these objectives are the achievement of greater levels of access, the reduction of cost per unit of access, the differentiation of services for particular clientele, the reallocation of resources, and so on.

ARL may help in assisting with these local definitional efforts, with advising on techniques or helping to develop techniques like the Kantor performance measures[1], with support of

limited peer group comparisons, and with selective membershipwide surveys and periodic systematic data collection.

Once we achieve clarity of purpose, we must address the question of vision. Embedded in this question are issues of direction, scope, and acuity. We are building on a long history of data collection and rational commitment to consistency and conservatism. There is a danger, however, that we will continue to refine and expand the collection of data elements that are related to unclear purposes or obsolescent objectives. A number of speakers, starting with Ted Johnson, Marty Cummings, and Bill Hubbard, challenged us to identify new data elements that will facilitate progress toward our objectives during periods of continuing rampant change in environmental conditions — changes which range from our decaying books to major technological changes in the scholarly communication process. Library data collection and strategic planning must be viewed in our institutional context and within our collaborative relationships. Our scope must encompass, but range beyond, the library. We must be able to differentiate among our clientele and we must learn more about how our clientele seeks to use the information and how those patterns of information acquisition and use are changing.

The responsibility for defining and articulating the purposes and means of data collection lies with each manager, individually and as an actor in a collaborative effort. As we attempt to envision the future of research libraries, we should also identify the data elements we require in order to make effective strategic decisions. One direction for our collective effort might be to point toward a joint identification of data elements that relate to questions of how well we, as a part of national scholarly communication system, support our various clienteles.

In summary, the program has reminded us that for statistics to be tools honed to our purposes we must be clear and imaginative about those purposes. I will conclude with my all time favorite statistical story. It is a more or less true story which comes from my friends at the Smithsonian Institution; I won't say for what era. I was told that there was a budget hearing for the Smithsonian Institution in which a presentation was being made for new space for the Institution. The budget hearing officer responded with the observation that the Smithsonian already had more square feet per staff member than any other government agency. The quick retort was no, the Department of Interior has more.

MR. JOHNSON: Thank you, Penny, for your insightful comments and summary of what has been a varied, interesting, and stimulating day. I want to thank everybody who had a part of the program: our speakers and panelists, the group leaders and recorders in the sessions, and all of you.

We hope very much that today has challenged your thinking; we appreciate your contributions, your ideas, and your suggestions. We plan to use as many of your ideas as we can, and we look forward to continuing to receive your comments and your ideas.

References:.

1. Kantor, Paul B. *Objective Performance Measures for Academic and Research Libraries*. Washington, D.C. ARL, 1984.

BUSINESS MEETING

Report of the ARL President

I would like to begin this meeting by taking a few minutes to tell you about recent Board activities, particularly from our meeting this week. I hope that you will be pleased to learn that we are revising the format of the ARL Five-Year Plan so that it will present progress on activities more clearly. The Plan in the revised format will be issued to you prior to the October meeting.

This week, we also endorsed a statement on library education for professionals in research libraries that I will present at the ALA Annual Conference in June at an open forum of the U.S. Department of Education/ALA Committee on Accreditation project.

The Board also heard a brief interim draft report from the President's Task Force on Membership Criteria. I will not go into detail at this time.

The Board has established a Task Force on Government Information in Electronic Format. The charge to the task force will be to make recommendations about the kinds of information that might be or might not be appropriate for issuance in electronic format by government agencies. It will also look at the inhabitions to user access that might stem from having information delivered in this format and look at the advisability of encouraging one or two member libraries to pursue the development of a pilot project. The task force will also try to look at the kinds of training our staffs might need in order to provide effective service for this kind of government information.

The Board had a preliminary discussion on the 1987 budget. As in prior years, we made a projection of the amount of dues increase that you will be asked to vote on at the October meeting. You recall that we committed ourselves to increases in the 4% to 7% range for the duration of the Five-Year Plan. From the preliminary figures, we estimate that the increase will be at the higher end of that range.

Report of the ARL Executive Director

MS. ECHELMAN: You all have received copies of the Office Activities and Status Report for the period November 1985-April 1986 [see Appendix D]. I would like to highlight just a few items, since the report was not sent to you prior to the meeting and you may not yet have had a chance to look it over.

First, we have almost completed the process of automating some of the operations in the ARL Office. In the course of this, we have joined ALANET, so you can now use e-mail to communicate with the Executive Office of ARL. Our ID Number is ALA0180. We have prepared a directory, listing all the ARL libraries that are up on ALANET with the identification numbers, and copies are available at this meeting.

The Center for Chinese Research Materials has been unsuccessful in seeking foundation support to continue its operations for the past couple of years, and we are now at the stage

of making final plans to close down the Center's operations, at least as an ARL sponsored project. We expect that that will be completed by the end of 1986. Whether the Center's bibliographic and reproduction services will continue to be made available, either through some other sponsorship or independently, we do not yet know. It is the hope of the CCRM Advisory Committee that that will be the case, but we are not certain that arrangements can be made to do this.

In the area of membership publications, in addition to the regular publications that the Association has issued in the past six months, I would like to call your attention to a new monograph just published by ARL and sent to all of you just last week. Many of you may not have seen it before you came to the meeting. It is called *The Gerould Statistics*, and is authored by Robert Molyneux. It reproduces and analyzes the statistical series on university libraries first collected at the University of Minnesota by James Thayer Gerould in 1908, and with the other ARL statistical publications — *The Cumulated ARL University Library Statistics, 1962-63 through 1978-79*, by Kendon Stubbs and David Buxton, and the annual *ARL Statistics* — comprises the longest and most comprehensive data series available on university libraries.

Before I go on to legislative activity, I would just like to say that I had the opportunity early in April to meet with the American Council of Learned Societies Conference of Secretaries, who are my colleagues in the scholarly societies, and share with them the work that has been done to date by the Task Force on Scholarly Communication. They seem to be very happy that ARL has taken the lead in this area. I asked them to look at the paper prepared by the task force, *The Changing System of Scholarly Communications*, and to identify the appropriate committee in their own organizations to comment to us. I suggested the possibility of similar papers from their own points of view, and perhaps, sessions at their upcoming conferences in which we could discuss the issues of scholarly communication from the points of view of both scholars in the various disciplines and research libraries. We already have some plans to do this. Charles Osburn will make presentations at the Society for Scholarly Publishing meeting in May and at the annual meeting of Modern Language Association in December. We have preliminary indications of interest from the American Historical Association, the American Philosophical Association and the Linguistic Society of America. We hope to have similar exchanges with the sciences as well.

Our legislative activities comprise the longest part of my written report and I shall not take a great deal of time this morning except to add a few new things that are not included in my report.

The rescision request of the Reagan Administration has now been rejected by the Congress through the vehicle of inaction. That means that the HEA Title II-C funds that were being held up have now been released so that those of you who are in negotiation for II-C grants can be fairly well assured that those negotiations will proceed. The Andrews Amendment passed the Senate. This was an amendment introduced by Senator Mark Andrews (R-ND) that will help in ultimate allocations for library and education funding in the budget deal-making that is still going on in the Congress. Those deals must still be struck, but the Andrews Amendment will effect the final bottom line for education. We gave you some information about that recently in the legislative update and would now like to ask you to contact those senators who voted yes on the Andrews Amendment and to urge them to retain current services level for library programs in the final budget. We have a list of votes on the Andrews Amendment here so you can see how your senators voted.

Senator Larry Pressler (R-SD) is again interested in the issue of the rise in telecommunications rates for libraries, and he is asking for a group of senators to co-sign another letter to the chairman of the Federal Communications Commission. Yet another increase in rates is now going through the FCC process, and it looks as if they will make up for what we saved by

getting the issue postponed for 18 months. Previous joint letters from Senator Pressler to the FCC on this subject had 27 and 28 senatorial signatures and were very effective. Thus far Senator Pressler has only managed to interest 12 colleagues in the issue.

The Joint Committee on the Library is holding hearings on the Library of Congress budget cuts on May 7. This is a Joint Senate/House Committee with oversight of the Library of Congress. When Congress says the library, they mean "their library." ARL has been asked to present testimony but we only have a few minutes allotted to us. I would like to ask you to send me examples of how the LC budget cuts might affect your own libraries. That has been the thrust of our testimony — not what the effect would be on LC or on the Congress, but what it would be on the other research libraries. When we testified about LC before the House Appropriations Subcommittee, we had a very effective example from Russell Shank, and I want to thank Russ for that. The hearings were chaired by Congressman Jerry Lewis (R-CA), who has a son in graduate school at UCLA. Congressman Lewis had had a very long day and was falling asleep when I was presenting testimony. But when I mentioned the cuts in cataloging at LC were likely to mean that UCLA was going to buy 6,000 fewer books for their students, he suddenly woke up and started to make notes. He leaned over to his assistant and said, "Who is that lady?" We need examples for the May 7 hearings, which will be chaired by Congressman Frank Annunzio of Chicago. Don Simpson has provided some; however, there are other members of that committee and additional examples would be helpful.

Finally, I wanted to mention that Senator Moynihan (D-NY), who apparently is in constant contact with librarians in New York, has introduced legislation to exempt the following organizations from any future Gramm-Rudman-Hollings cuts: the Library of Congress, the HEA Title II-C Program, the NEH Challenge Grants, and the NEH Office of Preservation. I believe he has been talking with Vartan Gregorian, Pat Battin, and certain other people in New York. Now, it would be very nice to have a lot of support for the Moynihan Bill. We have copies available of the Congressional Record statement that Senator Moynihan made when he introduced that legislation.

That is my report on legislation, and since you will have the opportunity to read the rest, I will say no more. Do you have any questions for me?

MR. LEINBACH (Tulane University): I am just curious. When you write us and ask us to write to our senators and representatives, what sort of response do you get from us?

MS. ECHELMAN: That is a good question, Phil. It depends on the issue. In some cases, we get a considerable response from the membership. In others, we may get a very small response, but targeted to specific important members of Congress, which is just as significant, because of the people being contacted. And in some cases, we find that there is a very low response. I cannot get many of you interested in postal rates, for example, although Congressman Bill Ford (D-MI) believes it is very important for libraries. I suspect that is because you do not have the kind of information that he wants. Also, the copies of your letters that we get give us some feedback about what issues are of importance to you, and that is significant help for the office.

MS. BATTIN (Columbia University): I also believe it is important to recognize that our local institutional lobbyists are working through their contacts for the total university program. The efforts may not show up at ARL specifically, but I would urge all my colleagues to be sure that route is covered also. I believe sometimes we have as much effect working through that route as well — approaching Congress as the university rather than just the library. I know

our lobbyist has a lot of contacts that I simply do not have that help get that view across. I believe particularly this work with Senator Moynihan is more of an institutional effort.

MS. ECHELMAN: Whoever did it, they should be congratulated. One of the things the new ARL Committee on Government Policies is going to consider is whether we should try to make a more regular contact between the Association and those institutional government representatives in terms of getting information to them about issues.

MR. LUCKER (Massachusetts Institute of Technology): I would like to say something about the Japanese Science and Technology Act that is not in your report. Legislation has been introduced to authorize the expenditure of about a million dollars by the Department of Commerce to NTIS to try to increase the flow of Japanese scientific and technical information to this country. It is certainly far less than is needed, but it is at least a first attempt. Of the estimated 60,000 Japanese scientific and technical journals that are published, fewer than 10% are monitored and less than 5% are even translated in abstracts. This legislation is just to try to get some more attention paid to this important literature.

If you have people on your staffs who are involved in this, have them get in touch with me. We are trying to set up a network. We are going to have a meeting in Hoboken, New Jersey, on May 20 to talk a bit about what we might do. I have some contacts at the new Japanese Technical Information Service (JTIS) at University Microfilms, Inc. In case you do not know, UMI has just come out with a rather expensive — $5,000 per year — service: the JTIS Japanese Technical Information Service. I am not trying to sell it; whether it is good or bad does not matter — it is all we have. We are trying to get them to consider expanding this service. If you have people on your staffs who are interested, particularly in science and technology as that is what the Congress is concerned about, contact me.

MS. ECHELMAN: If there are no more questions, thank you.

Report from the Office of Management Studies

MS. WOODSWORTH: I would like to ask Duane Webster to report on current OMS activities.

MR. WEBSTER: The narrative report we have prepared for distribution [see Appendix E] reviews the activities in the ARL Office of Management Studies since the membership meeting last fall. That report is divided into two sections: a review of the separately-funded projects in the office, and a review of our core programs. The separately-funded activity represents about 20% of our effort. We are currently supporting three activities: 1) the North American Collections Inventory Project, funded by the Andrew Mellon Foundation; 2) the Preservation Planning Program, funded by the National Endowment for the Humanities; and 3) the Institute on Research Libraries for Library and Information Science Faculty, funded by the Council on Library Resources.

I would just like to highlight briefly some of our current work in those separately-funded projects and then review our plans for new initiatives in the ongoing program area. First, the North American Collections Inventory Project (NCIP). The program is in the first year of a third phase that is emphasizing training and support for ARL member libraries to participate in the descriptive and analytical process of examining collections. The long-term intent is to move this collection assessment effort from a local level into a regional and national decision-making process in the areas of cooperative collection development, retrospective conversion,

and possibly preservation. Currently about 65 ARL members are involved to some degree in NCIP. We have 15 ARL bibliographers prepared to assist or train other institutions in using the RLG conspectus tool. Under Jeff Gardner's direction, OMS has started a newsletter to acquaint people with the current work and developments in the project. The second issue is available and will probably be in your mail boxes when you return home.

The second project, the Preservation Planning Project, is drawing to a close. This effort involves ten ARL members completing detailed preservation planning self-studies. Two of those studies have been completed, the remaining eight are in the final stages. We are asking NEH for a small extension on that grant to allow us to complete these studies in a timely fashion and also to support further development of the study process, and an update of the preservation resource notebook. We expect to get a decision on that request for extension in the next two weeks.

The third separately-funded project is the Institute on Research Libraries for Library School Faculty. The institute involves ten faculty doing one week field visits in your libraries, followed by a two week seminar in Boston, featuring seminar discussion on some of the crucial environmental and institutional concerns of research libraries. Its purpose is to influence these faculty members and the curriculum being offered in library schools. This project is well along. We have scheduled all the field visits, the seminars are set up in Boston, and we are now simply making the final arrangements for that event.

The second part of the OMS activities report relates to the core programs that are operated with funding made up both from an allotment from your dues and our efforts in securing cost recovery from the sale of services and publications. The ARL dues allotment in 1985 was $115,000 to support these core services. Cost recovery amounted to roughly $300,000 and the combination is about $420,000, with interest from some of our investments. In this area I am going to rely on the narrative report to alert you to the ongoing services and resources that are available. I would like to just highlight some of the new initiatives so that you can take advantage of them.

First is the new Management Institute for Associate University Librarians and Associate Directors. This is a program that has evolved from the Management Institute for Directors. That institute, as you may recall, focused on three topics: strategic planning, organizational change, and role in the university. Based on our experience in providing three of those institutes for directors, it was recommended that we direct this developmental experience to assistant and associate university librarians. We will offer the first such institute in August. It is fully subscribed at 30, and since we have received such strong and continuing interest in this, Susan Jurow, who is the Training Program Officer, and I have decided to increase the number of participants to 35. We also will offer this event again next year.

The second item I would like to announce is that the Management Committee has urged us to design and offer a new Management Institute for Directors. We are planning to do this. It will be offered in February 1987, and it will cover three topics: organizational climate, conflict and negotiating skills, and team building, particularly at the senior management levels.

A third initiative I would like to alert you to is the Leadership Development Program, designed for the Yale University Libraries and now being made available more broadly to other interested libraries. This is not a training program per se; it is more of a strategic planning and organizational development effort involving the senior staff. At Yale, it involved 23 of the senior managers in a three-and-a-half day retreat where there was a focused effort to chart directions and identify key issues that need a response on the part of the library.

A fourth new item that I want to alert you to is an occasional paper just issued by the Systems and Procedures Exchange Center under its Collaborative Research Program, a program we operate with help from some of your staff. The paper reports on a study of 26 institutions

relating to the preparation of telecommunications policy within a university setting, specifically from the point of view of the role of the library in shaping telecommunication policy. Ken Flower at the Johns Hopkins University Library prepared that report.

I would also like to comment briefly on some of our efforts in the analytical area since so much of this ARL membership meeting program has, over the last several days, been directed in that area. The Analytical Skills Institute, which we began offering last year, first at the University of Pittsburgh and then at San Diego, has been well received and successful in dealing with the tasks of identifying skills related to data gathering, data analysis, and problem solving. The program is now refined and includes a workbook on statistical concepts that Paul Peters has worked with us to prepare which allows participants coming to the institute to do some advanced preparation in order to make the most of the three-and-a-half day event. We are offering another Analytical Skills Institute later this year, in December. It was originally scheduled in the Seattle, Washington area, but we find now we must relocate it. We seek to arrange with one of your libraries willing to host the field study element that is a part of the institute. This is a component where we ask the participants to actually complete brief, focused studies in a research library in order to get hands-on experience.

I might also say that, with the encouragement of the ARL Board and the Management Committee, we are working with Gordon Fretwell on a study of demographic characteristics of research library staff. Our interest here is in anticipating and planning for projected changes, particularly resulting from staff turn over and retirement.

We are also working further with the automation inventory, trying to refine that instrument and also to take advantage of the data that is coming out of it. We are working presently with a group of researchers from the National Library of Medicine to study the data from that project.

In closing, I would like to note simply that OMS is enjoying a stable funding and a stable staffing period. This allows us to enrich and extend the services and resources available to you, which are reported in the 1985 Annual Report. This 1985 Annual Report will be issued in the next two weeks.

Again, we in the office thank you for your continued support. This support is an essential part of our approach and our success in dealing with management issues.

Report from the Office of Educational Research and Improvement

MS. WOODSWORTH: Thanks, Duane. Next I would like to call Anne Mathews, the recently appointed Director of Library Programs in the Office of Educational Research and Improvement, U.S. Department of Education, to give a report. Dr. Mathews was appointed out of the Graduate School of Librarianship and Information Management at the University of Denver. Prior to that, she was Program Director of the Central Colorado Library System in Denver. Dr. Mathews has served many capacities, for example, as a consultant to the U.S. Information Agency, the U.S. Department of Education, and the U.S. Agency for International Development. I am pleased to welcome her to our meeting.

MS. MATHEWS: I would like to thank you, Shirley and the Board for including me in this meeting, which I have found extremely interesting. The program sessions were particularly provocative, since we are currently putting some of our federal funds into the area of statistics gathering, and we hope to continue in some of those efforts.

It was very exciting to get here last night and find my first ever library boss in this audience. Don Hunt was Associate Director for Public Services at Oregon State University Library when I arrived with my freshly-minted MLS some 20 years ago, to be a reference librarian at Oregon State. There are many of you in this audience with whom I have worked, and I am very pleased

to see you all. I also am glad to see several distinguished panelists who came to Washington to review HEA II-C proposals this year.

Before I left I asked Louise Sutherland if there was any message she wanted me to carry, and she said, "Better you shouldn't know anything; then if anybody asks, you can honestly say, 'I don't know.' " However, I would like to give you some information since HEA Title II-C has come up several different times during this conference. First, we had 97 applicants for over $19,000,000 worth of projects this year. As you know, Congress had actually appropriated $6,000,000 and if you take out Gramm-Rudman's first cut, we are able to grant $5,742,000 worth of applicants for renumeration. We will have 38 applications funded, and two are joint applications which will benefit five additional institutions; so 43 institutions will benefit this year. Without that 4.3% reduction we could have funded at least three more, possibly four.

I would like to underscore what you have heard about the importance of keeping in touch with the people in Washington, particularly those people whom you know. You have among your former student employees in academic libraries people who have gone on to be staff assistants to senators and congressmen; please keep in touch with them! I would like to applaud publicly Shirley's efforts and the ARL staff's efforts in Washington. They are able to provide valuable information and it is an enormous help to all of us. We benefit mutually.

HEA II-C is up for reauthorization this year and we would like to see the appropriation increased, obviously. When you realize that we had applications for $19,000,000 and we are working with less than $6,000,000, you know that there is a real need. In terms of where the money went, you might be interested to know that 80% of our requests this year were in the area of bibliographic control, preservation was second with 13%, and collection development was last with 7%. We had an extremely good review panels and, as Louise noted, they did a superb job of screening, reviewing, and evaluating requests. It is largely due to them and their insightful comments that we are able to come up with an excellent slate of recommendations for the applications and we hope to issue the grant awards sometime after June 15th.

Regret letters are sent to all those who were unsuccessful, after the awards are issued, and applicants receiving regret letters are encouraged to request in writing a critique of the unsuccessful application. I do encourage you to do that. You really should know, so next year when you rewrite, you will know why you might not have gotten it this year. On the subject of those awards and review panels, I would like to say that I am working directly under the Assistant Secretary of Education, Dr. Chester Finn. He and Secretary of Education William Bennett, are very sensitive on the issue of panelists, and Dr. Finn looks over the name and resume of each person we recommend. Frank Stevens, Louise Sutherland, and I put together a list we thought was very distinguished; it went through with flying colors. We thank you all.

Toward that end, I want to encourage you to send a resume or recommend friends or your staff (and I believe you are the appropriate collection of people to request this of), as we are looking for people who would be willing to review proposals. Because of Gramm-Rudman and budget cuts, the Department of Education is not going to offer an honorarium for reviewers in the future. Our program has a lot of discretionary money, so this policy affects us along with everyone else. If we convene panels in Washington we will pay expenses only. If you are willing to do this (and we find many people in the educational world who are willing to come for expenses only because of the experience it provides), please let me know. If we do not get people from the library world who are willing and interested, our proposals will be reviewed by people whom the Department has chosen to be reviewers. I would appreciate hearing from those of you who are interested. Your name will go in the Office of Educational Research and Improvement (OERI) Peer Review database, a master list of reviewers which is being developed, and you may be asked to review Office of Research as well as Library Program

proposals. We have a form, which has just come to me in a review stage, that will ask for your department, your institution, your title, your degrees, your educational level of interest, and we are adding a few things that we think are pertinent for the library world. If you are interested in reviewing your colleagues' grant proposals, I would very much encourage you to send a resume to me. My address is 555 New Jersey Avenue, N.W. The zip code is Washington, D.C. 20208. We would really appreciate hearing from you.

Briefly, for those of you who do not know, I will explain that the Department of Education, Office of Educational Research and Improvement Office is the division headed by Assistant Secretary Chester Finn. That is the division that used to include the National Institute of Education, now dismantled. With the reorganization of OERI, there are the Assistant Secretary, two Deputies — for Policy and Planning and for Operations — and five program officers responsible for: Library Programs, the Center for Statistics, the Office of Research, Programs for Improvement of Practice, and Information Services (which is the Information Office of OERI and includes the OERI Library and ERIC). These five program directors work directly under the Assistant Secretary. This is the first time that library programs have been placed on the same line with the other parts of OERI, directly responsible to an Assistant Secretary. I talk via e-mail, telephone, or in person to the Assistant Secretary at least once a day.

These are the five "box heads," as we are called. The program directors meet several times a week, so there is an opportunity to use this appointment as a vehicle. If you have concerns or interests, including those other than just II-C and money issues, I would appreciate hearing from you. I would like to stay posted about things you do, and I am really encouraged by the kinds of projects you are working on. I would like to use my short tenure in this job (it is a three-year appointment) to convey as much as I can of an intercooperative nature among our various constituencies. When the "great money holders of the world" convene, they do not care whether you are an academic librarian, a school librarian, or a public librarian — they do not even know the difference. We are libraries and we really have to be in this together; the longer you are in Washington, the more convinced you are of that fact. Thank you very much.

Report from the Council on Library Resources

MS. WOODSWORTH: Thank you. Our next report will be from the Council on Library Resources, by Deanna Marcum and Jim Haas.

Remarks by Ms. Marcum

MS. MARCUM: I am going to talk briefly about the Preservation and Access Commission, and Jim will follow up with more information about the Research Institute.

The reports from CLR on preservation have been coming to you now as a regular feature of ARL meetings. You will recall at the Colorado Springs meeting when ARL endorsed the plan for preservation. Following that Colorado Springs meeting, there were at least two CLR forums in which preservation was the central topic, and a Preservation and Access Committee was formed. The committee, after 18 months of work, has established a permanent Commission on Preservation and Access.

All of you should have received by now the report from the Preservation and Access Committee, called *Brittle Books*. We have lots of copies and I hope you will ask for more if you need them. If you have had a chance to read even the introductory section of this report you will see that the Preservation and Access Commission was the central recommendation from the Committee.

The Commission on Preservation and Access, which had its first meeting last Tuesday, will be doing a number of things, the most important of which is developing a funding plan for preservation. The Commission will also try to develop policies, procedures, and guidelines that can be used by libraries as they try to incorporate their preservation work into this bigger effort. And the Commission will work very hard to broaden the awareness of the problem, not just in the university community but also among the general public. And finally, the Commission will work on assuring that for those things that are preserved, there will also be an access system to the materials after they have been preserved.

The membership of the Commission has been at least partially set. We are very fortunate that Bill Fry, who chaired the Committee for the last 18 months, has agreed to continue his work as the Commission's chair. From the ARL community the members of the Commission are, Sid Verba of Harvard, Penny Abell of Yale, Jim Govan of North Carolina, and Bill Welch of the Library of Congress. In addition, Herbert Baily, from the Princeton University Press; Dr. Kenneth Gros Luis, Provost at Indiana University; and Carol Huxley, Assistant Commissioner for Education of the State of New York, are members of the Commission.

When we sent you a copy of *Brittle Books*, we also enclosed an announcement of a staff position for the Commission, who will be responsible for the day-to-day work of the Commission. I think you can appreciate the need to have someone who can represent the cause of preservation to university presidents, to foundation officers, to members of your library staff, your faculty, and so on. We are looking for a person who can do all of those things. Penny Abell is chairing the Search Committee for this position. Neil Rudenstein, from Princeton, and I are on the Search Committee. We hope you will let us know of any candidates you can think of for this very important position. The Council has agreed to fund the administrative costs of the Commission for the first two or three years, and we will have the staff director for the Commission housed at the Council during that time. After the funds are clearly available, the Commission, of course, will decide where it wants its staff and how it will be administered.

When the Commission met last Tuesday, of greatest importance were hiring a staff director and setting the agenda for the first year. The Commission members talked about the need to add to its members. It is important that the Commission remain small so that action can be taken quickly, but there will be two or three others added to the Commission in the next couple of months.

I should also mention the corollary organization to the Commission, the National Advisory Council on Preservation. Just before the meeting at Wye Plantation in March, we wrote to 19 organizations — ARL included — and asked those organizations to send a representative to the meeting to talk about the Preservation Program. All 19 organizations agreed to send a representative and all agreed that they would work on behalf of their organizations to communicate the needs of their organizations to the Commission and to take information from the Commission back to their organizations. David Weber is representing ARL. David, of course, is the chair of the ARL Preservation Committee.

We hope that this Advisory Council will take on a life of its own. It will be hosted by the Library of Congress, but it will have to set its own operating procedures. Within the year, I am sure, they will be meeting and David Weber will then be reporting to you on how that process is working.

If you have any suggestions for the staff position, I would be glad to hear them. If you have any particular concern that you want to make sure the Commission is aware of as it begins its work, I hope you will communicate those to David. I believe he has issued a report on the Wye Meeting, but I hope you will be in contact with him as you think about what ARL needs to communicate to the Commission. Thank you.

Remarks by Mr. Haas

MR. HAAS: Let me just reinforce on several points related to preservation. First is the role of this Commission. The Commission is not assuming responsibility for preservation; the Commission intends to support those institutions and organizations that by definition have both the obligation and the capacity to act. Taking the long view, we are talking about the reconstitution of a significant portion of already-published works, the material that is physically going to fall apart. Estimates vary as to the amount of this material. Bob Hayes has been doing some work for us and is continuing that work. We are talking about millions of volumes; even if we end up preserving only a third of the material potentially at risk, the effort would involve perhaps two, three, or four million volumes, two hundred million dollars, and ten to twenty years. So, this is not a trivial undertaking.

The end product will be the creation of a new national collection of preserved materials. The existence of that collection in a appropriate format that is easily accessible, as Deanna pointed out, is the trigger here. This enterprise started as a program on preservation and very quickly it became a Committee on Preservation and Access because one cannot justify the idea that preservation alone is a realistic goal to those who have to put up the money. When you say that what you are really doing is creating a new capability to serve generations ahead, then the goal becomes realistic and, if not easy, then at least possible.

I want to underscore the fact that this Commission seems to be the device that has been invented to multiply the level of present activity and to do it in a consistent, methodical way over time, so that we end up not having solved this specific aspect of the preservation problem, but having done as responsible a job as we can. The idea of two or three million volumes being available ten or fifteen years from now in some format that makes access easy, reliable, and prompt has interesting implications for the way libraries manage how their dollars are put to use. In the end, I believe this effort presents new options, options that do not exist now.

I want to emphasize one other thing. Over the months of discussion with many groups it has become clear that this is not really, in the final analysis, a library problem; it is a university problem, a problem of society. Libraries have the responsibility to see that something is done, but the libraries by themselves, within the confines of their operating budgets, will never solve the preservation problem. Funding is obviously going to have to come from public sources (state and federal), the private foundations, and the universities themselves. I was impressed by the ARL session at Colorado Springs for two reasons. First, it was acknowledged that preservation is a problem of great importance to a relatively small number of libraries. The problem is greatest and most visible in those libraries that have old collections — old in the sense of 100 or 150 years — massive, general collections. But the minute you begin to talk about access, then the shoe is on the other foot.

While many libraries are not themselves deeply concerned with the brittle books problem specifically, the fact is that accessibility to this new evolving concept of a national — by national I do not mean centralized — research collection in effect amplifies their own capability. So there are two sides of the coin: those that carry the obligation on behalf of all of us, and the many institutions well beyond this room that in the end will benefit from the process. That is why support, both fiscal and moral, needs to come from both sides. In funding the Commission, we took on the obligation to put the money together to fund this enterprise for the first three or so years, and we chose to do it in a bizarre way. The Council itself will put up a portion of the funding, but again, purely because of circumstances, we wrote letters to eight universities with a little preliminary information from other sources and suggested that they themselves, as universities, might consider contributing $25,000 a year for three years. That was two weeks ago, and I have two "yeses," one "no," one "probably," and four not heard from. The H. W.

Wilson Company, again with some support from our mutual friends, has also agreed to contribute. I called Leo Weins on Monday, and Wednesday he called me back and said, "Yeah, we'll put up $75,000." We are looking at three-quarters of a million or a million dollars to support the staff and the work of the Commission for a period of time until this enterprise is tested. And I am optimistic that within three or four weeks that will all be taken care of.

I want to mention two other related things.

One, we have contracted with Terry Sanders to produce an hour-long film on preservation for public television. Funding for this comes from the National Endowment for the Humanities, the Mellon Foundation, and CLR, and the Library of Congress is cooperating very closely with the enterprise as well. We talked to several producers, and Terry came up with a plan that is absolutely first-rate; those who read it and know something about this business are very optimistic that we are going to have a real winner. The topic is not preservation as a narrowly-defined set of problems; in fact, the film looks at preservation from a very broad perspective. It looks at the technology that might well be employed, the implications of not doing something, and the whole range of things that have to fall into place. Principally, the film says that this is an opportunity to extend equitable access to information; a solution here may well serve as a kind of a prototype for what we see ahead.

Finally, I want to underscore that, as Deanna pointed out, we try to be effective agents on behalf of those who have an interest and concern; we do not intend to become an operating organization. We will provide light, heat, and support for the Commission as long as the Commission needs them, and at an appropriate time and with success we anticipate the Commission will become self-supporting. I just thought I would take a little time to underscore these points because of our collective conviction that we are at the beginning of something of potentially great importance.

The research program of the Council — you have all had a letter from us including an orange brochure that says "Research Grants" — is the tip of the iceberg. We have embarked on and are proceeding slowly with a conviction that the library community — and more than that, the university community itself — needs to stand back and look at the nature of recorded information now and in the future, consider the requirements of individual disciplines for information, and rethink, as all of you are already rethinking, the structure of universities and the scholarly activities themselves as they relate to putting recorded information to effective use.

We made an initial, fairly substantial grant to UCLA. In essence, UCLA is kind of a prototype institution. There was a setting there that was supportive; Bill Shaefer the Vice Chancellor for Academic Affairs, sensed very quickly what we were talking about; Russ Shank was already chairing a committee at the University looking at the long-range future of the library; Bob Hayes, Dean of the Library School, had an intense interest. Very quickly, UCLA has mounted what is truly a university enterprise to look at these questions, and I am awed by the skill and speed with which they have proceeded to involve faculty from all of the principal components of the university. They have embarked on a three- or four-year effort that we hope will help show the way. We went into this naively with no capability at all. So obviously you turn to those with the capability, and we are assuming that UCLA is going to help us shape the nature of the questions that, in fact, have to be attended to. In one sentence I guess I can say that what we are really trying to do is to get the universities to pay attention to their futures, especially their technical futures, although I believe that is a word that is going to be distorted significantly. We want the universities and members of the universities to think about their futures themselves so that they can, in fact, draw up the specifications for that future, because I think without that planning there is a very substantial risk that marketing representatives of computer companies are going to determine the nature of higher education in the United States.

I simply would like you to think about how you or individuals on your faculty might play some kind of role in this effort. We have a modest amount of money available for support of incremental costs of research. I understand that everybody is very busy, but there are also some topics that need to have priority. As an example of what we have done, the Social Science community, the National Research Council, and the Social Science Research Council, have just finished a study, an assessment of the next decade in social and behavioral sciences. Some 250 leaders in those disciplines have taken part in this process. Sid Verba and I have written to each of them, saying, "You have talked now about the future course of your discipline or your specific area. What are the library requirements, what are the informational requirements that you see tied to that evolution in your research activities?" That started just a week or ten days ago.

My point is, we are trying to cast our net very widely and tap the most impressive skills and the most impressive thinkers we can, and we need your help in that process and we hope we will have your participation as well.

Finally, and very briefly, I was pleased to learn you are going to be producing some kind of a statement on requirements for research librarians for use at this hundredth anniversary ALISE Conference coming up in June. We have, as you know, been involved with librarianship as a profession and the process of professional education. This is an interesting time right now because there are a large number of leading library schools headed by recently appointed deans. We have asked a half dozen of them whether it would be useful to bring a set of people together from library education, libraries, and professional education in other fields, to take stock once again of where we are in this business of the profession, and perhaps to redefine the profession. I was curious whether they would view this as hazardous, since they are all competing for the same limited pool of factors. For the present, they thought they could rise above that, and we are going to run another Wye Meeting on November 8-9, 1986. I suspect a few of you will be there; it is an invitational meeting. Our intent, to be perfectly blunt, is to use the meeting both for commissioning papers ahead of time and using the discussion to produce a publication stating where the wisest minds think we ought to be going. We will not define the wisest minds at this time. Thank you.

Report from the Committee on Bibliographic Control

MS. WOODSWORTH: The next committee report will be given by Joseph Rosenthal, chairman of the Bibliographic Control Committee.

MR. ROSENTHAL (University of California, Berkeley): I would like to call your attention to the report that was in the last issue of the *ARL Newsletter* that was essentially a report on what Jutta Reed-Scott and others involved in the ARL Recon Project have been doing, and to the minutes of the Board meeting for February 3-4, 1986, in which there was a report of a fairly extended discussion on the Recon Project. Jutta and the Bibliographic Control Committee expect there will be reports on the project in the *Newsletter* on a continuing basis. And I am pleased to call to your attention that there will be a clearinghouse established, an electronic form of information about Recon Projects that has been put together not only by the efforts of Jutta, but by the efforts of OMS, and particularly Maxine Sitts.

The Bibliographic Control Committee has developed a short statement of guidelines for participation in the Recon Program and, we expect this to be distributed to all ARL members in the near future. You have received a survey questionnaire instrument regarding your library's recon efforts — where you are and what kinds of collection might be suitable or might be targets for retrospective conversion. There is a May 30th deadline for return of the survey, and

I respectfully but earnestly urge you to complete the questionnaire and return it to Maxine Sitts at the ARL office.

The committee met earlier this week and one of the topics that was discussed was the exchange and loading of bibliographic records produced under the Recon Project. Richard McCoy of RLG and Roland Brown of OCLC were present for that discussion, and we are working with OCLC and RLG to try to get exchange and loading of records into the respective databases on a project-by-project basis. I hope that this will be productive as we go along with specific projects.

There are a number of specific projects in various stages — these are cooperative projects in which a number of libraries are involved — including efforts in philosophy and religion, technology, Slavic materials, Latin American materials, and agriculture, where the National Agricultural Library is taking the lead. And just to return for a moment to the questionnaire, we hope that the results of that questionnaire will help the program identify areas that are promising or a potential for new undertakings. If there are any questions, I would be pleased to try and answer them.

MR. ATKINSON (University of Illinois): With the advent of the pilot project in technology and with the work that is going on in theology and in agriculture, I would urge most strongly that we put on hold any further work with Slavic and Latin American materials. Those are two very large areas and potentially will involve the same libraries that are participating in the other projects. The ARL Recon project is supposedly a pilot project. Let's get through one or two of these projects, through the subjects of agriculture and theology and especially technology, and stop planning the Slavic and Latin American projects until we find the results of the ones now in progress.

MS. BATTIN (Columbia University): I would like to underscore what Hugh said. I believe that we are in danger of having the priorities being set by the wrong process until we take a look at the pilot project and see if we are satisifed with it. I am really concerned about the way in which activity has been generated in the Latin American and Slavic Program. It is something that certainly we at Columbia cannot support.

MR. ROSENTHAL: Any other comments?

MS. MARTIN (Johns Hopkins): Regarding the guidelines that will be issued, will they address the question of those collections that have already been converted using the resources available in a database such as RLIN, so that only scattered unique items remain to be converted? In other words, the questionnaires I have seen so far have been focused on describing an entire collection and in our case, for instance, we do not have entire collections left — we have only those items that are unique or have not yet been converted to machine-readable form. Aside from a separate page, it is difficult to describe that situation.

MR. ROSENTHAL: I would hope that a statement to that effect could be included in the questionnaire.

MS. MARTIN: Not in the guidelines, though.

MR. ROSENTHAL: The guidelines do not specifically call for that distinction.

Report from the Committee on Collection Development

MS. WOODSWORTH: I would like to call on Robert Miller, Chairman of the Committee on Collection Development, to come up and give a brief report.

MR. MILLER (University of Notre Dame): The Committee on Collection Development has been considering at least three topics as a committee and before that as a task force. These included the North American Collections Inventory Project (NCIP), foreign acquisitions, and, most recently, discriminatory journal pricing. We met this week and, after discussion, took some action on these matters. In a related matter, we sent to the ARL Board a statement emphasizing the importance of sharing bibliographic records for collection development activities. And, in a more future oriented action, the Committee asked the Association's help in obtaining an issues paper addressing issues in collection development arising from the introduction of electronic media in research libraries. We will be working on that in the months ahead.

The committee sent to the Board this week a statement on discriminatory journal pricing, and I would like to say a few words about that statement. First, the statement asks the Board to go on record protesting the practice of discriminatory journal pricing and urges that the Association work with the appropriate North American governmental agencies in trying to stop the practice and explore as to alternative legal action in this area. It also encourages member libraries to take action, to make their views known to publishers, and to pass on those views and any information on study results that are available. There are many pricing studies underway, and it will be interesting to compare the results from studies that have been done at various institutions to see if the data is the same. The resolution also asks the committee to continue to monitor activities in this area and to explore joint actions with other agencies such as CARL, AAU, and ALA. The text of the statement is as follows.

> "The Association of Research Libraries has for the past several years noted the increasing practice of some foreign publishers to charge North American libraries special prices that are extraordinarily higher than prices charged in either the country of origin or other foreign countries. Differentials of 25 to 50% are not uncommon and in some cases the differentials are as much as 100%. Pricing for these publications appears to be almost totally market-based, rather than cost-based. That the sole purpose of these practices is to maximize profit is clear from the related efforts of these publishers to cut off alternative buying sources for American libraries. Thus libraries are in some cases losing their ability to purchase from longstanding vendors.
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> "The Association's concern in this matter is far more than academic. These arbitrary and unreasonable practices are having a significant impact on the buying power of North American libraries and affect their ability to meet the needs of researchers here for scholarly information.
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> "Over the past several years individual libraries and various professional groups including the Association's Committee on Collection Development and the American Library Association have protested these practices and undertaken discussions with publishers and vendors, both here and abroad. While these efforts have had some positive effect, the practices continue, and are contrary to the long-range best interests of researchers, libraries, and publishers.
>
> "Accordingly, the Association of Research Libraries formally deplores and protests these practices and urges those publishers involved to eliminate market-based dis-

criminatory pricing. In furtherance of this effort, the Association declares its intent to work with relevant North American government agencies and to explore legal remedies. Member libraries are being encouraged to make known their views in this matter directly to publishers, and to share such correspondence and any internal studies with the Association's Committee on Collection Development."

MR. DOUGHERTY (University of Michigan): I have been working with this trend for some time, gathering quite a bit of information, and it is a fascinating issue for many reasons. Very recently, some information has become available that casts a slightly different light on the matter and we ought to be aware of it.

It all started with a letter from Australia, a letter of outrage saying, "Why are you complaining, American libraries, you've been ripping us off for years." So, I did some checking and found that a 10-20% differential is often added as the subscription or jobbers charge and associated costs. My response was basically that prices in that range did not seem to be unreasonable. Well, it turns out upon more checking, that American publishers, including most of our university presses and some of our most prestigious commercial houses, have been charging premiums ranging from 30 to 70% in the sale of monographs in the European market. And it appears, from the data that I have seen, that if three of the major publishers in the country feel they can make a profit at 30%, think what those publishers charging 68% are reaping. So, we may have to put our own house in order, or at least investigate it a little bit further.

MR. MILLER: Richard, do you know if the different prices are just for Europe or other places as well?

MR. DOUGHERTY: Apparently it has to do with the sales of our publications in foreign markets.

MR. MILLER: Foreign markets in general?

MR. DOUGHERTY: Right. It is not discriminatory because it is England or France or Germany. Nonetheless, this problem has been around for a number of years. I do not believe any one of us thought of it as a problem. We did not even know about it.

MR. MILLER: Any other questions or comments? This is something the committee has suspected might be happening, though we did not know it was on a general basis as opposed to a specific market basis.

MR. DE GENNARO (University of Pennsylvania): Be that as it may, I do not believe it should discourage us from taking the kinds of actions that the committee is talking about and it should not discourage any of us from writing to these publishers, from reviewing our subscriptions list and cancelling some or all of the publications, and letting them know that we are doing so. I do not believe Dick is suggesting that we ought to roll over on this issue.

MR. MILLER: The committee would not feel that way.

MR. DOUGHERTY: If you will indulge me just a couple of minutes, I believe I can add some more information to this problem. The British publishers began this practice longer ago than some of us recognize because our files are organized by title or some other means, rather

than by publisher. We have done some analyses of the British publishers and we have found that there seems to be a very high correlation between the magnitude of the price increase and the ISI impact factor, i.e. ISI's analysis of its citation indexes. The correlation has been that, for some reason, for journals that are least cited, the price increases have been slightly lower; journals that are cited most often have had the price go up, sometimes over 100%.

The publishers that are involved and that are receiving the most publicity have somehow managed to find the wherewithal to increase their publication and production of titles by 25% in the last two or three years. So, their argument of poverty does not seem to hold a great deal of water. I was concerned about this in the beginning because I thought it would spread to the continent, and it is not clear whether or not this will happen.

Many of us know about what has happened with Harrasowitz and VCH; there is some indication publishers like Springer Verlag and Elsevier are at least considering new pricing structures. What is really fascinating about this is that what started out to be price increases under the guise of the shifting relationship between the pound and the dollar is not, I suspect, really routed in that rationale whatsoever.

I believe what the publishers are learning by the strategies that they have applied is that some of their products may be even under priced and that the market will bear much more than what they have been charging. If that is the case, and I suspect it is in at least some instances, then I expect the practice is going to spread to other countries and probably to North America itself, because if you are a publisher in higher education and you find your British counterpart — Oxford or Cambridge — is charging something that is comparable to what you are charging, and then they raise the price and do not seem to lose any subscriptions, and you are a commercial company, the temptation is to raise your prices, too.

So, I believe the action the committee recommended to the Board to make this problem known widely is important, a large step in the right direction. One publisher colleague told me once those prices are increased, it would be difficult for us to get them to roll back because someone will be losing face. If we are going to take any effective action, we must try to cut them off at the pass, as the saying goes.

MR. MILLER: Any other questions or comments? My experience at Notre Dame in discussing this with faculty and committees is outrage and general agreement that we had to cancel somebody else's journals. Any other questions or comments?

Other Business

MS. WOODSWORTH: Thank you very much. That is the end of our official business. Before I entertain a motion to adjourn, I would like to ask if there is any further business to come before the membership.

ARL Library Index

MS. BRYNTESON (University of Delaware): With reference to the comment by Jim Govan during the program session, I would like to request the Board to consider redistributing the ARL Index as a nonconfidential document.

MS. WOODSWORTH: You mean to include it in the regular publication?

MS. BRYNTESON: I yield the floor.

MR. LAIRD (University of Arizona): Thank you. I have a motion in this regard. I move that

> it is the sense of the membership that ARL should continue to compile and publish the ARL Index and include it in the publication of the Annual Statistics.

MS. WOODSWORTH: Is there a second?

MR. GOVAN: Second.

MS. WOODSWORTH: Discussion? Hearing no discussion, all in favor of the motion say aye.

MEMBERS: Aye.

MS. WOODSWORTH: Any opposed?

A FEW MEMBERS: No.

MS. WOODSWORTH: Do you want to be recorded? There are three nayes. Abstentions? Two. I believe the motion has carried.

Is there any further business?

ARL Recon Project

MS. BATTIN: I would like to go back to the recon issue. It seemed to me there was not enough discussion. I would like to ask the Board to look at this project, which was approved by the membership as a pilot project. The Board should look at it to see what is happening, how decisions are being made, and report back to the membership at our next meeting as to exactly how you are monitoring it and what your plans for proceeding are.

MS. WOODSWORTH: I believe the Board can take that as direction. The Board is tracking the Recon Project, and if you read the February Board minutes, I believe you will find a fairly full discussion of the Board's interest in that project.

MS. BATTIN: Activity is still going on — that is our concern among our staff members — that is being generated by ARL.

MR. ROSENTHAL: Is this a request that the program be stopped?

MR. ATKINSON: Yes.

MS. WOODSWORTH: Does anyone wish to respond to Joe Rosenthal's question?

MR. ATKINSON: My response was a request to proceed with two or three projects and to stop the Slavic and Latin American materials projects. Yes, that is what I said.

MS. WOODSWORTH: Unless I hear comments to the contrary, I would take that as an indication that the Board review the Recon Project as it has been outlined today.

MR. GOVAN: I am fairly neutral on this issue and I am no parliamentarian, but it seems as if things are coming unraveled. If, in fact, we are going to do it, let's have a motion and let the membership vote on it.

MS. WOODSWORTH: Did you wish to frame a motion, Pat?

MS. BATTIN: Well, I did not mean to unravel, but what I was interested in was asking for some report from the Board, rather than from a committee, as to how the project is being monitored and what your expectations are in terms of activity that is currently going on. Now, if you want a motion, I guess I can come up with a motion. But I do not know where the Board is on this and what they are actively doing in order to guide and monitor the activities of the project.

MS. WOODSWORTH: I would be prepared to take this discussion to the Board as an indication that you want the Board to report back to you in October on progress and activities.

MS. BATTIN: My intent is to ask the Board to take a look at the original charge and what the membership agreed to — including the fact it was a pilot project — and report back to us on the scope and planned activities.

MS. WOODSWORTH: I do not believe a motion is needed to direct the Board to do that.

MR. LUCKER (Massachusetts Institute of Technology): I believe we have to get this settled. I am the convener of a group working on the technology project. It seems to me that the various groups are working at various speeds. We have the participation of a member of the ARL staff, Jutta Reed-Scott, working with us, and we are moving ahead, developing a proposal, editing it, starting to identify possible funding sources. It seems to me that the Board must decide how many of these projects we are going to pursue at the same time, especially as some libraries are involved in three or four efforts.

Secondly, we are going to the same funding sources, potentially, for several of these projects, and we do not want to cut our own throats. It is important we should know how many projects we are going to have. I believe Hugh was right, not in the sense of stopping cold, but in planning carefully — the timing is very important. I do not want to go out banging on doors asking for money when someone has just been there. For example, if one of these projects is further ahead than the others, it has an impact on the speed of activity, not to mention the fact that institutions are working at various places, not knowing what other institutions are doing. I believe the Board has to set some sort of time frame and schedule. Someone has to control the flow on the project. I am reluctant to ask the Board to tell us either we are on full speed or we are not. I hate to start moving ahead and be told you cannot do that, that project has not been blessed the second or third time. We must see how many we are going to be handling, in terms of the commitments the libraries and their staffs are making. The project we are working on involves a substantial financial commitment on the part of the participants to contribute towards this project; 25 to 50% of some of the costs are coming out of our own budgets. Libraries cannot do three of these at the same time; you also cannot go out seeking funds three or four times during the same period.

It is necessary, I have to say, to decide how many of these we can do, over what time period, and in what order. If it becomes a debate issue, then let's debate. Let's make sure we all know which projects are going ahead and which ones are not.

MR. ROSENTHAL: The ARL Recon Project, as endorsed by the membership, identified five areas in which there was potential for recon projects. The experience so far has been that there is a considerable period of time involved in gathering information as to the particular libraries that are interested in projects, the number of records that are held by particular libraries, sampling to estimate overlap, and the other parts of the planning that need to be done in order to set about both planning and undertaking a particular project. So, when I said the various projects are at different stages, that was an accurate statement. The survey and questionnaire that is going out is a preliminary effort to identify other possibilities. The program, as you all recall, was endorsed on a two-year basis, and that is a relatively short time frame. I certainly have no objection to Board review and monitoring of what is going on in the program; I believe that is quite appropriate. But I do not believe that the program, as now constituted, is rushing pell-mell in all directions and unthinking in an unbridled way.

MS. BATTIN: The issue that is somewhat clouded is the setting of priorities. If we go back to the *Minutes* of the meeting last May, it is somewhat unclear as to whether the proposals that were made were made as examples or whether they were voted upon as definite projects and priorities. That is something we need to reconsider, and I ask the Board to look at that. We have a tendency in this profession to do things because they are there, not because that might be the best thing that we can do and because there are certain subject areas in which one can say, well, let's do that. I just think we need to step back and look at the scholarly needs, the financial implications, the resources that we have, and a broader overall view, and try to get a real sense of how, in this profession, to set priorities that make a significant contribution to our whole scheme of things.

MR DOUGHERTY: I was not going to say anything; I probably said too much last year. But I pulled out of the Cincinnati minutes that we voted to authorize a two-year project, a pilot project, and it seems to me that the five or six projects in five or six disciplines involving overlapping groups of libraries is not consistent with at least my idea of what a pilot project is. It seems to me a pilot project is one that is designed to test all aspects of the undertaking and evaluate the outcomes to see whether or not we want to engage in a broader scale program. So, I really do not believe what has emerged complies entirely with the spirit of what was voted on in Cincinnati. Others may feel differently. I believe Jay also raised a very legitimate point. My underlying concern is that there is a finite amount of money available for retrospective conversion and priorities of what should be converted first varies from institution to institution. We need some mechanism so that we maximize or optimize our dollars in converting those records which are most important. As Jay points out, we certainly do not want to stumble over each other in our search for funds.

MR. JOHNSON (Emory University): I would just like to comment a bit on what the Board has been doing. We have indeed had on the agenda for the last three meetings the whole retrospective conversion project, and we have been monitoring and discussing it regularly. In fact, at our last meeting we raised a number of these same questions, and encouraged the current survey that has been sent out so that additional priorities could be looked at and established. I would like to remind us of another function we saw this project doing, and that was to help us coordinate retrospective conversion that was already under way, and to assure that the records went into the appropriate national databases and the duplication of effort might be reduced somewhat, which would also have an impact on cost. I believe we are forgetting that in a part of what we are discussing, and certainly as President-elect, I would be happy to help encourage the Board to continue to look at the Recon Project in the future.

We need to be careful that we are not forgetting some of the additional things that we agreed to engage upon such as coordination and that sort of thing. After all, ARL is not an operating agency; its purpose is, again, to help stimulate and encourage and initiate.

MS. WOODSWORTH: As you heard, Joe Rosenthal did indicate the clearinghouse function is being set up.

Any further comments on retrospective conversion? Any other business? If not, I would like to entertain a motion to adjourn.

A MEMBER: So moved.

MS. WOODSWORTH: All in favor? The meeting is adjourned.

APPENDICES

APPENDIX A

LIES, DAMNED LIES, . . . AND ARL STATISTICS?

by

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April 8, 1986

I

ARL washes its dirty linen in committees.[1] It is convenient to begin with this metaphorical statement about the recent work of the Committee on ARL Statistics. To have linen to wash is something: The publication of *The Gerould Statistics* demonstrates that ARL is the custodian of a statistical series stretching back nearly eighty years — one of the oldest continuous annual series of library data in the world. To assert that this linen does not need washing from time to time would be rodomontade rightly disdained by anyone familiar with the vagaries of data compilations.

For several years the Statistics Committee has been examining the blemishes in the ARL data. This paper is intended to summarize the committee's work under the topics of (1) problems with the data that ARL collects; (2) problems with what ARL does *not* collect; (3) problems with data collection generally; and (4) proposed courses of action by the committee.

II

> The ARL Statistics as a whole are a very unsatisfactory, dirty source of data.
>
> — Robert Hayes[2]

In 1914 Phineas Windsor, the Librarian of the University of Illinois, sent his president a copy of the latest statistics of university libraries, just issued by James T. Gerould at Minnesota. Mr. Windsor no doubt wanted to impress on the president that not only was Illinois still smaller than Oberlin in the size of its collections, but it even remained behind upstart libraries like Berkeley. President James, however, took a different view of the matter in his reply the next day: "I noted that while Illinois only added 29,000 volumes during the year 1913-14 and Yale added 37,000, we spent for the 29,000, $86,000, while Yale spent only $34,000. . . . Is Yale getting much better bargains, or are we buying more expensive books, or what?" And the chilling conclusion, "I should like to have you analyze these things and bring them into harmony with the proposed budget of next year and explain the same."[3]

Seventy years later the chief officer of another university opened *The Chronicle of Higher Education* to find the latest ARL statistics. After a little study he called in the library director and said: You spent 4.1 million dollars and added 120,000 volumes, while this other library spent 4.9 million and added 240,000. Did you pay nearly twice as much per volume? Are we buying more expensive books, or what?

The ratio of materials expenditures to added volumes is of course not a very useful measure of anything. Added volumes are one measure of cataloging productivity, and materials expenditures may cover a wide range, from monographs and serials to OCLC or RLG charges. Nevertheless, the question that university presidents have been posing for seventy years points to some persistent problems in the ARL statistics.

In William Kruskal's terms, some of the problems in the statistics are problems of smoothness: numbers that are erratic well beyond the bounds of typical fluctuations in the ARL data. For example, there was the library that reported a few years ago that it had added 300,000 volumes — 112,000 more than the Library of Congress.[4] Another library had 90 professionals in 1983, 68 in 1984, and 97 in 1985. Kruskal notes that problems of smoothness could be detected even by a visitor from outer space.

Transgressions of general knowledge, which are visible to those who know a little bit about how research libraries work, represent a different kind of problem. An example is the library that one year ranked in the top twenty in added volumes and in the bottom ten in staff, leading one to wonder at least about the library's secret of staff efficiency. Another example (which

also may be considered exaggerated smoothness) is the library that for six years has reported exactly the same number of current serials.

A third kind of problem is due to the ambiguities of classification. At least one library has been counting microforms with volumes held and added volumes. Some libraries pay for bibliographic utilities or literature searching from book funds. The mysterious category of other operating expenditures seems to include a little of everything, probably even the library kitchen sink. Closely examined, a category like materials expenditures seems only a shade less fanciful than classifications noted by Borges. He relates, for example, that class 179 of the Bibliographical Institute of Brussels included books on "Cruelty to animals. Protection of animals. Moral implications of duelling and suicide. Various vices and defects. Various virtues and qualities."[5]

The Committee on ARL Statistics has recently been taking a close look at smoothness, transgressions of general knowledge, and ambiguities of classifications. As a starting-point, the committee has been studying three measures of resources — volumes held, gross volumes added, and current serials — and two measures of expenditures — expenditures for library materials and expenditures for serials. Here are some of the problems that the committee has been uncovering.

Volumes held: Some libraries include all of their government documents in volumes held; some include part of their documents; some include none. One library reported 2.8 million volumes, including all its documents; another reported 2.7 million, excluding 130,000 documents. If ARL members systematically included or excluded documents, there would be a radical shifting of their rankings with respect to volumes held.

Lesser problems are that a dozen members are counting holdings in bibliographical units rather than physical volumes, and some libraries include microforms with volumes held.

Gross volumes added: This is a higgledy-piggledy combination of purchased monographs and serials, gifts, documents, volumes from omnipresent backlogs, microforms and sheet maps in at least one library, and other materials too numerous to mention. According to the ANSI definition, added volumes are physical units that have been cataloged, classified, and made ready for use. There may be, however, 118 different opinions in ARL about the exact meaning of "cataloged, classified, and made ready for use."

Current serials: In 1984, 75 ARL members counted documents among current serials; 30 omitted documents from serials. The 75 that included documents paid an average of $55.62 per serial. The 30 that excluded documents paid $66.89. The president of one of the 30 universities might think that his library was buying more expensive journals than one of the 75 libraries. In fact, the serial counts in the 75 libraries may be inflated by several thousand "free" government documents.

Expenditures for library materials: This includes expenditures mainly for monographs and serials, but also microforms, AV materials, maps, manuscripts, and so on. About half a dozen members seem to be including bibliographic utility charges in this category. Others, in unknown numbers, pay for literature searching or binding from the materials fund.

Expenditures for serials: The problem with this category is that ARL does not have figures on how many serials are *purchased*. The category of current serials includes both purchases and gifts, and may also be a little fuzzy at the edges in areas such as monographic serials.

III

> We need to do something about our statistics if they are to be used for decisions. We are finding our in-house management and statistics diverge more and more from the ARL data elements.
>
> — Patricia Battin[6]

If ARL is open to criticism for the data it collects, it is also being reproached for what it does *not* collect. A university president has written, "For one, I would deemphasize currently quantitative measures of library status such as the annual ARL statistical rankings . . . . To judge the *quality* of libraries, for example, only by the number of volumes currently held or the number added each year may encourage the very competitive behavior which a commitment to interinstitutional cooperation and complementary collection development would deter . . . . Might there be some way in which the ARL surveys would include — even in their quantitative data — some measures of success in reducing duplication within and between institutions or improving preservation of existing materials?"[7] It is true that the ARL statistics represent the traditional way of looking at libraries in terms of their resources in collections, staffing, and expenditures: the library as dragon guarding its goldhoard and content merely to gather up more treasure. Until recently, ARL has not paid much attention to measuring whether or how the treasure is being used — in other words, to what in library jargon is called performance or access or service.

For some years the Statistics Committee has been looking at new ways of measuring research libraries. One outcome was Paul Kantor's manual on objective performance measures. Another is the supplementary statistics collected last year and this year. A main object of the supplementary statistics was to see how hard it is for ARL libraries to present new statistics in areas such as access and staff organization. It turned out that 8% of ARL members did not know (or at least could not easily explain) how many items they circulated; 16% did not know how many monographs they purchased in 1984; 23% did not have data on reference activities; 4% were unable to say how many branch libraries they administered. When nearly one of every ten libraries has trouble with a traditional question like number of circulations, the committee has been in a quandary about more probing measures of access.

In order to elicit reactions from the membership, the committee sent out a questionnaire earlier this year. In response to the question "what additional data elements, new compilations of data, or access measures would you like to see?" members named 78 additional elements or compilations they would support. Among these were success rates of reference transactions; expenditures for document delivery; gift titles cataloged per year; impact of bibliographic instruction; number of people leaving the library annually; "what is spent to maintain a square foot"; size of uncataloged backlogs; turnaround time for ILL; cost studies of acquisitions, reserve, binding, preservation, original cataloging vs. CIP or copy cataloging; and so on. The highest level of agreement among respondents was 35% in favor of an ARL price index. 15% favored data on online services, "access measures," and costs of automation. Most other of the 78 suggestions were made by 5% or fewer of members replying.

In thinking about these 78 suggestions, the committee has been acutely aware of the costs of collecting data, especially good data. Look at studies by accomplished researchers such as Paul Kantor and Malcolm Getz, and you can see the painstaking care and time required for data that ate smooth, do not transgress general knowledge, and are not subject to classification ambiguities. There are other lesser-known costs of new statistics. One of the best measures of both access and performance is the measurement of availability in Kantor's *Objective Performance Measures*. During the development of this manual, five ARL libraries tried out the measurement of availability, which computes the percentage of items immediately available to users when they come to the library to seek them. The percentages in the sample ranged from 42% to 59%, with a median of 48%: meaning that in these research libraries users can quickly put their hands on only one of every two items they want. Publication of this kind of data for 118 ARL members might be salutary from some standpoints, but it could also arouse questions as intense as current questioning of added volumes and materials expenditures.

The committee therefore continues to study new data elements that may be worth the cost to ARL members. Should the Association test the slippery slopes of access; should it begin to measure literature searching or automated services? These are questions on the committee's current schedule.

IV

> None of us really understands what's going on with all these numbers.
> — David Stockman[8]

If the ARL statistics are unsatisfactory and dirty, and anyway are not measuring significant aspects of research libraries, it is some comfort to find that no one else is doing much better; and some very respectable organizations are doing worse. Kruskal proposes that "A reasonably perceptive person, with some common sense and a head for figures, can sit down with almost any structured and substantial data set or statistical compilation and find strangelooking numbers in less than an hour."

A famous example of strange figures is known to statisticians as the Case of the Teen-age Widows. The 1950 U.S. Census reported — erroneously, as it turned out — 565 14-year-old widows and 1,670 14-year-old widowers. The Census is mandated by the Constitution; immense time and labor are devoted to it; and as a result it is one of the most sophisticated of all statistical compilations. Yet each Census offers new tidbits of piquant or exotic information.

In 1960 the Census revealed that 62 females, aged 15 through 19 years, had 12 or more children. In 1970, 2,983 14-year-old males were widowers; and 289 14-year-old females had been both widowed *and* divorced. The 1980 Census of Occupations informs us that 183,439 people called themselves librarians. 85% of these, not unexpectedly, worked in elementary and secondary schools, colleges and universities, and public and private libraries. Of the remaining 15%, however, 17 people working in gas stations considered their occupation librarianship. There were also 22 librarians at automobile dealers, 5 in optometrists' offices, 19 in trucking, 6 in "sugar and confectionary products," 22 in fishing, trapping, and hunting, and 1 in a funeral home.[9]

Lack of smoothness, transgressions of general knowledge, and ambiguous classifications also infect educational statistics, including the standard national data collections. The Association for Institutional Research — composed of the professionals who count whatever is countable in colleges and universities — periodically wrings its hands over the messy numbers that are its lot in life. Ask your institutional research office what the FTE enrollment is on your campus, and you may get one answer on Monday and a different one on Tuesday. 50% of colleges and universities define a fulltime course load as 15 credit hours; 30% define it as 12 hours; others prefer anything from 11 to 16.5 hours. One institution uses six different methods of calculating FTE's for different reports throughout the year. Some universities count noncredit courses as hours of instruction; others as hours of public service. Some universities include technical-vocational students in their enrollments; others exclude them. Some include them in one report but not in others. The 1980 Census discovered 33% more college students in one state than the state had reported on its Office of Education HEGIS forms.

Financial data leave something to be desired. NACUBO has been moved to caution against national compilations. NACUBO's report found that expenditures of "medical schools, central administration, extension and research centers, institutes, and programs" are reported by some institutions, not by others. In at least 13 states tuition and fees are reappropriated by legislatures and thus counted by the universities under both tuition *and* state appropriations.[10]

National library data compilations have been an easy target for years and used to elicit scorn and indignation in library journals; but apparently writers have grown weary of those pastimes. Mary Jo Lynch of the ALA Office of Research, together with her Advisory Committee on National Library Data Collection Project, spent several years convincing the U.S. National Center for Education Statistics to adopt a rational scheme of data categories for school, public, and academic libraries. But NCES has passed on to the graveyard of government acronyms, and its successor needs all our encouragement as it pursues the heroic scheme.

There are many more examples, but we are undoubtedly far enough along the downward path to morose delectation.

V

> Statistics, to be sure, are not always reliable, but we have nothing better, and we must make as much of them as we can.
>
> — Charles Angoff and H.L. Mencken[11]

A starting-point for making as much as we can of the ARL statistics is to note that it is only a small proportion of data values that exhibit problems. The Statistics Committee judges that anomalies are visible in less than 5% of the ARL figures: about the same percentage that one would expect in the best of all possible statistical worlds. As a result, statistical analyses of the ARL data can produce remarkably reliable results. For example, regression analysis of the 1985 data shows that ARL libraries employ 19 professionals plus 1 for every 43,000 volumes held. This model is more accurate than models typically used for decision-making in many areas of psychology, sociology, economics, and even the physical sciences.

But alas, the university president reading the *Chronicle* is not likely to be looking for valid averages and well-behaved residuals and high coefficients of determination. He is likely to be putting his finger on the figures that demonstrate that a peer is paying only half as much per volume as his own library. Presidents (and library directors) have to keep in mind the story of the trout fisher who drowned in a stream that was only six inches deep . . . on the average.

The Statistics Committee therefore believes that it is worthwhile to wash ARL's statistical dirty linen. The committee agrees with the comment of one director in the recent survey: "ARL should focus its attention on improving its current statistics-gathering mechanisms before undertaking new initiatives. That does not mean we do not need additional data — only that the quality of the data currently collected needs to be improved." The committee intends to concentrate on five data categories: volumes held, gross volumes added, current serials, expenditures for library materials, expenditures for serials. The committee proposes a survey of members to determine what is being counted in each of these categories. With the results of this survey the committee can better judge how to count or not count government documents, how to sort out the different ingredients in the materials expenditure bouillabaisse, and so on. At the same time the committee will continue to explore new data categories where utility may justify costs of collection.

In this matter the committee and the members are revisiting old battlefields. Forty years ago, at its 24th annual meeting, ARL accepted a proposal by Robert Downs that the members should count their holdings in bibliographical units, rather than physical volumes. Two years later, in 1947, a survey of members showed that half were counting in bibliographical units and half in physical volumes. In 1948, ARL appointed a new Committee on Counting Library Holdings, chaired by Guy Lyle. In 1949, at the 33rd annual meeting, the Lyle committee recommended that holdings be counted in physical volumes, rather than bibliographical units. Speaking to the motion, Downs said "that he had once thought uniformity possible but that

he had become disillusioned on this subject and believed that no action taken here would have much effect." The members thereupon voted to record in the annual statistics whether counts were in physical volumes or bibliographical units; but no further action was taken on the Lyle proposal. By the 1960 winter meeting "the urgent need for uniform policies in counting library holdings was stressed by Jens Nyholm."[12] But the meeting ended without any plan to meet the urgent need.

The current Statistics Committee believes that the ARL data can be redeemed. We urge the members to unite in this long-delayed endeavor.

References:

1. Readers of this paper may recognize echos from Twain and Eliot, but perhaps not from one of the wisest of statisticians, William Kruskal. I have borrowed freely from his "Statistics in Society: Problems Unsolved and Unformulated," *Journal of the American Statistical Association*, 76 (September, 1981), 505-515, which should be read by anyone concerned with the ARL statistics or indeed with any other data compilation.
2. Robert Hayes, et al., "An Application of the Cobb-Douglas Model to the Association of Research Libraries," *Library & Information Science Research*, 5, no. 3 (1983), 306.
3. Windsor to James, December 15, 1914; James to Windsor, December 16, 1914. In the University of Illinois Library archives.
4. This was a different case from that of Chicago, which rightly reported 523,485 added volumes in 1985 because it had acquired the John Crerar Library.
5. Jorge Luis Borges, "The Analytical Language of John Wilkins," in *Borges, A Reader* (New York: Dutton, 1981), p. 142. Other classifications, less chaotic than ARL's categories, are offered in Sei Shonagon, the great classifier of tenth-century Japan. For example her list of Embarrassing Things includes (among others): while entertaining a visitor, hearing your servants chatting without restraint in a back room; listening to the man you love get drunk and keep repeating himself; an ignoramus who in the presence of some learned person converses about men of old; lying awake at night and saying something to your companion, who simply goes on sleeping. (*The Pillow Book of Sei Shonagon*, trans. by Ivan Morris, I (New York: Columbia University Press, 1967), 102-103).
6. *Summary*, Second Seminar on the Economics of Research Libraries, November 8-9, 1984 (Washington: Council on Library Resources, 1984), p.12.
7. Robert O'Neil, "Academic Libraries and the Future: A President's View," *College & Research Libraries*, 43 (May, 1984), 188.
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9. The 1950-1970 Census examples are quoted in Kruskal. The 1980 example is from the *1980 Census of Population*, Subject Reports, Volume 2: Occupation by Industry, PC80-2-7C (Washington: Bureau of the Census, 1984), *passim*.
10. Some papers on these topics are Melodie Christal et al., "Using HEGIS Data in Institutional Comparisons," 1984 Annual Forum Paper of the Association for Institutional Research, in ERIC ED246768; E. Beth Schwarzmueller et al., "The Use of HEGIS Data in Higher Education Research," *Research in Higher Education*, 20 (1984), 323-327; James Wyatt et al., "An Analysis of the Utility of HEGIS Finance Data in Conducting Institutional and Higher Education Sector Comparisons," Proceedings of the Joint Study Group on the Utility of HEGIS Finance Data (Washington: American Council on Education, 1980), in ERIC, ED191415.
11. Charles Angoff and H.L. Mencken, "The Worst American State: Part I," *The American Mercury*, 24 (September, 1931), 2.
12. A.F. Kuhlman, "Two ARL Approaches to Counting Holdings of Research Libraries," *College and Research Libraries*, 21 (May, 1960), 207-211.

APPENDIX B

EVALUATING THE NEW VARIABLES FOR THE *ARL STATISTICS*

A Discussion Paper

by

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April 4, 1986

1. Introduction

For the past two years, the Association of Research Libraries has requested data from its members to supplement the data normally collected and published in the *ARL Statistics*. The Committee on ARL Statistics has noted a growing concern about the statistics traditionally collected and the call for new "access" measures. The supplementary questionnaires were designed to address these and other concerns about the ARL Statistics by examining a number of new variables to see how feasible it would be to add them to future issues of the *Statistics*

This report focuses on the variables collected in the supplementary questionnaire, and whether these variables would be valuable and practical additions to the *ARL Statistics*. After a brief review of the variables reported in that series, and its predecessor, the series of library data begun by James Thayer Gerould in 1908, the criteria that should be used to add variables to the *Statistics* are examined. The variables in the Supplementary Statistics are then evaluated to see whether they meet these criteria.

2. The Dynamic Nature of Library Variables

Before attempting to develop criteria to judge variables, it will be useful to look at the variables reported in the past to gain an understanding of how they have changed. This survey uses examples from the current *ARL Statistics* and the Gerould statistics.

James Thayer Gerould began compiling a series of library statistics in 1908 that eventually provided the foundation upon which the ARL series was built. In the first issue, five variables were reported: Volumes Held, Volumes Added, Expenditures for Materials and Binding, (number of) Staff, and Salaries. All five of these variables are still collected, although in different forms. Volumes Held and Salaries are reported today in about the same way as in 1908, but the others have changed. With the variable Volumes Added, a distinction has been made between Volumes Added Net and Volumes Added Gross. Expenditures for Materials and Binding has been disaggregated into several of its constituent elements so that Expenditures for Materials, for Serials, and for Binding are each available. Staff has been disaggregated into Professionals, Nonprofessionals, and Student Assistants.

The process of disaggregation of data elements has resulted in the collection of new variables. Variables have also been added when something becomes important enough to record: a variable reporting Other Operating Expenditures was added to the *ARL Statistics* in 1962-63, Microforms in 1967-68, and Interlibrary Loan in 1973-74.

Variables have been deleted from the series, although the number dropped is smaller than the number added. The figure for Appropriations, which apparently was intended to record the amount budgeted for materials and binding in the current year (Expenditures for Materials and Binding reports the amount spent the year before) was added in 1909-10 and appeared last in 1953-54. Student Wages were added in 1949-50 but were not collected by ARL after 1961-62.

Given the many variables that might be collected, why choose those collected now? Collecting and reporting data can be thought of as a cooperative effort between libraries that may have librarians at one library collect data they do not use in exchange for information from another library that they do use. After all, orders to collect a set of variables could not be imposed on a group of libraries but these libraries could volunteer to collect agreed upon data. In effect, when the ARL members agree to report the variables that are now collected by ARL, a consensus has been formed that these variables are worth monitoring.

In general, the trend has been to record more variables — ARL currently reports 22 variables in its main data tables and others elsewhere in the *Statistics*, as opposed to the five recorded in 1907-08. The criteria that have been used to select the additions and deletions of variables from the annual survey can only be guessed at but an explicit set of such criteria will put the discussion of what data should — or should not — be collected on a firmer footing.

3. The Criteria for Adding Variables to the *ARL Statistics*

Two interrelated criteria will be discussed here: the value of adding new variables to the *Statistics* and the cost of collecting them. Understanding the purposes for collecting these numbers and problems with the results of that collection will help untangle the criteria from other issues.

3.1. Purposes for Collecting ARL Statistics

Why go to the trouble of measuring volumes added or why, after years of collecting this variable, distinguish between Volumes Added Net and Volumes Added Gross? Clearly, there is a perception that having these numbers is useful, otherwise it is difficult to imagine investing time in their collection and publication. The value of these numbers is related to the purpose for compiling them. In 1906, Gerould observed in *Library Journal* (v. 31, pp. 761-763):

> No questions arise more frequently in the mind of the progressive librarian than these: Is this method the best? Is our practice, in this particular, adapted to secure the most effective administration? Are we up to the standard set by similar institutions of our class?

Gerould argued that to deal with these kinds of questions:

> Two methods of solution are open to us. We may base our practice on our own experience, or we may supplement that experience by the experience of others.

Gerould argued that a way to help librarians administer their libraries better was through systematic compilation of library statistics. Two years later, he began a project to publish such statistics that ARL continues today with the publication of its *Statistics*. It can be argued that this effort has been continued because it is valuable and because it has aided ARL directors in the management of their libraries.

Of course, there are other purposes these numbers serve besides helping libraries manage better, for example, justifying budgets. The traditional variables that have served these purposes are often termed "input" measures because they measure the things librarians use to do what libraries do. The term "input" is not precise because library processes are more complicated than terms like "input" and "access" would allow. For example, volumes added are an output from the various expenditures and the work of staff, but inputs into other library processes. In spite of this problem of terminology, the classification of "input" measures is helpful because it makes clear that the purpose of the traditional measures was to aid management in the limited fashion of justifying and managing "inputs," such as money, staff, and materials in an efficient fashion. There is new concern that these purposes are too narrow and that statistics should be collected that are concerned with measuring the results of all these

inputs, for example, measuring how well libraries do what they should be doing. The termsused to describe the variables which address these concerns are "access" or "output." These measures will be discussed later.

3.2. What are the Variables Measuring?

Although the discussion here has focused on the variables themselves, it is worthwhile to take a step back and note that the focus could be on what those variables are actually measuring instead of what they are supposed to be measuring. Two related concerns emerge when this distinction is observed.

1. In order for a comparison between two or more institutions to be valid, it should be based on comparable data. If the Volumes Held at two institutions is compared, the two institutions should be reporting the same kinds of volumes for the comparison to be precise. Yet the data are not precisely comparable.

2. The unit of measure may be a poor one. An example of a poor measure is the variable Microforms, which reports a figure calculated by adding the number of microfilms, microcards, microprint sheets, and microfiche. The resulting number, therefore, is a jumble of bibliographic and unequal physical units.

   Dollar figures are another poor measure — for certain purposes. Among the uses of expenditure figures is comparing one library's figures over time, but how good can these comparisons be when the value of the dollar is changing? There is no library price index to help us compare one year's expenditure figures with those from other years, so comparisons over time are problematic. This kind of comparison is rough enough using figures from the U.S., but considering the fact that the relative values of the Canadian and U.S. dollars are changing, a reasonable comparison between expenditure figures between member libraries in the two countries over time is probably impossible at this time. Of course, comparisons between different libraries in different regions are difficult because price levels vary. There is currently no way to compensate, for example, for differences in salary levels between an employee in New Haven and one in Tucson or Vancouver.

3.3. Collecting Perfect Numbers

If there are difficulties like those mentioned, why not correct them and make the numbers precise? The answer seems to be that the numbers have been precise enough for the most common uses to which they were put. They were good enough for whatever use was made of them.

Making the numbers perfect would be expensive. Imagine how difficult it would be to make one variable, say Volumes Held, exactly comparable for all institutions in ARL. The project would involve using resources at each library that could not then be used on other work (including collecting other numbers), as well as coordination with all other libraries. It is doubtful that the value of having such a perfect number would equal the cost of getting it. So what we have now is not perfect but it does measure something worth measuring economically and well enough.

However, a level of precision in the variables collected that is acceptable at one time may not be acceptable at another. The impetus for new variables may be a frustration over the current precision of the ARL data, which was sufficient at one time but is no longer. There are at least two reasons why there could be frustration with the traditional library statistics. First, research often answers one question while causing others to be asked. Having an idea of the behavior of one variable may cause a question to be asked that the statistics collected currently cannot answer. Second, new tools, like machine readable catalogs, can reduce the cost of collecting better numbers, which could cause problems because institutions are at different levels in their automation efforts. These reasons suggest that we may be in a transitional phase and that the demand for more precise numbers will result in an effort to improve the numbers.

Perhaps it is impractical to make the numbers perfect through expensive projects but they can be improved in small, practical increments. Disaggregation is one kind of incremental improvement and Kendon Stubbs's paper on "Lies, Damned Lies, . . . and ARL Statistics" suggests another using relatively small improvements in the definitions of variables that would address the most flagrant problems.

Each variable collected involves compromises that balance the value of knowing what the variable purports to measure and the costs of collecting it. The process is complicated by two factors: first, it often takes a few years to know if a new number is worthwhile; second, numbers are apparently easier to add than delete. These complications create an argument for a conservative approach to adding variables: if the numbers collected may take time to prove their value, and if the numbers collected are rarely dropped, then care should be exercised in choosing what new variables to add.

With these considerations in mind, it seems clear that incremental improvements like disaggregation and improvements of the definitions are ways to get increasingly precise numbers that have a promise of being valuable.

3.4. Conclusion

In addition to being conservative about adding new variables, we should consider the purpose for collecting any variable and weigh the cost of collecting it against its potential value.

Disaggregating variables and improving definitions are practiced and relatively simple ways of increasing the precision of the statistics collected.

4. Review of Variables in the ARL Supplementary Statistics

There are six variables given in the Supplementary Statistics that meet the various criteria suggested for adding variables to future issues of the *Statistics*. There is value to the numbers and the costs of collection should not be high.

4.1. Variables That Could Be Added

4.1.1. Monographic Volumes Purchased and Expenditures for Monographs

Expenditures for Monographs would come from disaggregating Expenditures for Library Materials. Expenditures for Binding and for Current Serials have already been pulled from the 1907/08 Gerould variable that measured Expenditures for Materials and Binding.

Monographic Volumes Purchased, however, does not come from disaggregation because the two variables that measure volumes added only deal with volumes cataloged, not purchased, so they also include volumes that come from other sources such as gifts.

Volumes purchased would not only provide a measure of library growth but also would, with Expenditures for Monographs, end an improper calculation that is constantly being made. In an attempt to approximate the number of dollars paid for each volume purchased, a number of people have divided Expenditures for Library Materials by Volumes Added Gross and thereby approximate the number of dollars paid for each volume purchased. But, as has been pointed out, Volumes Added is not the same thing as volumes purchased, and Expenditures for Library Materials includes expenditures for materials other than monographic volumes. By dividing Expenditures for Monographs by Monographic Volumes Purchased, a closer approximation of the average price paid per Monographic Volume Purchased could be derived.

The value of the resulting number would be substantial. For example, during inflationary periods, it would be useful in budget discussions to know how much is being paid for each volume purchased. The perception in the library field that prices paid for materials exceeded the rate of inflation is difficult to demonstrate without such a number.

4.1.2. Professional Salaries, Nonprofessional Salaries, and Student Wages

These variables, which comprise over 50% of the budgets of ARL libraries, would disaggregate the variable Total Salaries, a variable that has been reported since 1907-08. It is curious that Total Salaries, which comprises the largest portion of the ARL libraries' budgets, has not been disaggregated before now.

Fringe benefits for these categories were also requested but so few libraries could provide this information, it is clear that many libraries do not carry fringe benefits in their budgets. Fringe benefits might be useful to know but the costs of collecting this number are probably too high at this time.

4.1.3. Automation Expenditures

Expenditures for automation are a growing part of library budgets and should be measured on a regular basis. Most libraries apparently carry these expenditures in Operating Expenditures but a number include parts of such expenditures in the materials budget.

In the 1983/84 Supplementary Statistics questionnaire, total automation expenditures were requested, but this year two numbers were requested: ongoing and one-time expenditures. The purpose of this division was to separate the large, occasional purchases from ongoing expenditures. This division seems reasonable and would allow looking at both kinds of expenditures, as well as the total expenditure for automation.

4.1.4. Number of Faculty

It is another curiosity of these data that the number of undergraduate students, the group least likely to do research at a university, can be estimated from the *ARL Statistics* while the number of faculty, the group most likely to be engaged in research, is not available there. This omission should be rectified.

The U.S. faculty data are readily obtainable from the HEGIS form submitted by U.S. academic institutions. The Canadian libraries, nonetheless, had little problem with this variable as only one of the 13 Canadian university libraries (of a total of 13 in ARL) that submitted a supplemental questionnaire did not report the number of faculty members.

4.2. Variables That Might Be Added

Other numbers were collected in the supplemental survey but in order to be conservative and to avoid the temptation to add every variable, only those variables that seemed to meet all criteria were included above with those recommended. There are others that have merit but which, for one reason or another, do not meet the criteria.

4.2.1. Staffing Breakdown by Function

The purpose for collecting the many variables which are necessary to break the staff into type of employee (professional, nonprofessional, student) by the functional categories (technical services, public services, collection development, and administration) is to understand in an objective fashion how the ARL libraries are organized. If these variables were collected over a period of time, it would be possible to document changes that occur in the organization of libraries.

It appears from an examination of the questionnaires submitted that work is needed on the definitions of the terms. There were a number of comments from those filling in the forms that they could not fit the staff breakdown at their institution into the categories given. Collection development was a particular problem because apparently it is frequently dispersed and those filling out the forms were often reluctant to estimate the amount of time involved in this activity.

4.2.2. Branch Libraries

There are problems with the definition of branch libraries also. There were anomalous responses that may have resulted from replying to this question not with the number of branch libraries on the campus but with the number of branches supplying data for the questionnaire.

4.3. Variables That Should Not Be Added

There are four variables, all measures of "access" of library outputs falling into the category of variables that should not be added: the three measuring circulation (External Circulation, Reserve Circulation, and Total Circulation) and Reference Transactions. Each has problems of definition, as evidenced by comments on the returned questionnaires, but these are not as serious as objections to adding access measures prematurely. The value of good access measures, for example, measuring the impact of the library, is clear but they fail the other tests for judging prospective variables given here.

There does not yet seem to be the necessary consensus about which variables should be added. There are a few good candidates, for instance, circulation figures might be good ones to collect, but here caution is in order. Rather than adding the circulation variables now and regretting it later, it might prove wiser in the long run to consider the question of what are the best access measures to use and allow a consensus to form.

One reason that this consensus has not formed might be the vague nature of the discussion about the "access" variables. Everyone seems to know the general purpose these measures will serve but no two individuals seem to have the same specific notion of that purpose. As a result, it often appears that no two individuals advance the same variable as a candidate for collection by ARL. Until this problem is resolved, little progress on this front can be expected.

Since its founding in 1932, the Association of Research Libraries has led the library field in a number of areas, including the collection of data. Access measures offer the exciting prospect of giving a way of assessing the value of a library to its parent institution and it is reasonable that ARL should lead in this area, too. However, there is a great deal of work to be done.

APPENDIX C

ARL'S *ANNUAL SALARY SURVEY:*

Background and evolution of the publication, and comments on the database and some of its uses.

by

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April 1986

I. Background

The Association of Research Libraries' first published *Salary Survey* was for 1966-67, and appeared in the *ARL Newsletter*.[1] Only 75% of the member libraries had responded at publication time, and salary data for university and non-university libraries were aggregated. The form this published *Survey* took was a single-column distribution by salary category. These categories began at $5,000 and rose by $500 increments to $10,000, and then went up in increments of $1,000 to a top category of $35,000 or more. (There were no salaries reported in the latter category.) In addition to professional staff, the *Survey* also included non-professionals whose salaries exceeded $5,000. Also included was the lowest professional salary actually paid ($5,33l), and the range for beginning professional salaries as of July 1967 ($5,331-7,737). Even in this first report, forms of compensation other than salary were excluded. No median salary or other statistics were reported, although one can estimate from the distribution that the median was approximately $7,500.

The second *Survey* allegedly appeared as part of *Academic Library Statistics* for 1967-68, although it was lacking in the copy I examined. In this report, no aggregate distribution was published, but instead, 1968-69 Beginning Professional Salaries were listed by library. Actually, two separate lists were displayed, separating university and non-university members.

For the 1968-69 *Survey*, a salary distribution was given for 3,248 professionals in the non-university libraries (i.e., national, public, and special libraries), with an approximation of $11,000 for overall median salary in that group. Two separate lists were also prepared (separately for university and non-university libraries) that listed the 1968-69 median and the 1968-69 and 1969-70 Beginning Professional Salary for each library. This third published *Survey* also saw the inception of footnotes to explain exceptional circumstances in reporting.

In the 1969-70 *Survey*, a salary distribution for professionals in the university libraries was added, and then no further changes were made until the 1972-73 *Survey*. That year saw the first attempt to provide a contextual framework for readers by adding an Introduction and Explanatory Notes. The first attempt at data analysis was also attempted. It came in the form of a table of summary data from 1968-69 through 1972-73. This table displayed the Number of Libraries, Total Positions, and Median Salary for both university and non-university members, and the Median University Beginning Professional Salary. 1972-73 also saw the first rank order tables for Beginning Professional Salary and Median Salary. The *Survey* remained in this form through 1975-76. The format improved visually, and took on a more professional appearance as graphs were introduced and a commercial printer was employed to produce the final product. However, the categories of information contained therein remained basically unchanged from the 1972-73 edition.

The 1976-77 publication saw the final change in the *Survey* as it now exists. ARL took advantage of work done by Talbot and von der Lippe[2] for ACRL in the previous year, and added a new array of analytical tables to the ones already an accepted part of ARL's statistics publication program. The new features included a distribution matrix of university professional librarians arranged by salary level and major job category. (This table is actually produced in two variations; one showing the number of men and women in each cell of the matrix, and the other showing total and percent of each job category in the cells.) More importantly, tables showing average salaries by job category were created in a host of iterations: for all university libraries, with comparable figures for public and private institutions; for minority professionals; for four separate groupings of libraries by size of professional staff; and lastly, for nine separate geographic regions of the United States. Average salaries in Canadian libraries were not published separately until the 1978-79 edition.

In 1979-80, a new method of data collection was employed for *Survey* data. This change, collecting data on each individual professional instead of aggregate data for categories of staff, resulted in the creation of an ARL Salary Survey database, from which summary tables could be extracted for the published version of the *Survey*. Also created for the first time was an information resource that could serve as a management tool for the analysis of salaries in individual libraries, and their comparison with *any* subset of other ARL university library members.

II. Uses of the Database

Since the mass of data extends back to 1980, the first year data on individuals were collected, a number of interesting observations can be made from an examination of these data over a five-year period. The data from 98 libraries (the 1980 ARL university library members, excluding Chicago) reveal attrition of staff at a steady rate in the early years of professional careers, with a substantial increase in later years when retirements would expectedly begin to take place. In Table A, professional staff in these 98 libraries are grouped into cohorts based on their professional experience in 1980. These data only reflect the *net* aggregate changes in staffing levels. Clearly, turnover rates obscure the gross aggregate loss of professional staff from the libraries in question. Attrition in individual member libraries varies considerably, judging from the *Survey* data, and probably represents a major problem in some institutions.

Other uses of this database are also possible. The demographics of (university) research librarianship is just one other possible use. Each year ARL collects, along with the salaries, information on the position, rank, sex minority status, and total years of professional experience of staff in university libraries. In the 1984-85 *Survey* optional data categories provided the opportunity for libraries to report on the broad subject specialization of reference staff, cataloging staff, subject specialists, public services staff, and branch library staff. Specific task-related information was elicited for functional specialists whose assignments fell into nine separate areas of current interest. Information on education (librarianship and cognate fields), years in rank, years in current job assignment, and years at the reporting library were also collected for professionals in libraries that participated in the optional exercise.

TABLE A

Attrition in 1980 ARL University Research Librarian Cohorts, and Related Information

	1980		*1985*		*Change in staff no. & salary*		
Yrs exp. in 1980	No. of Staff	Mean Salary	No. of Staff	Mean Salary	Staff Loss	% Staff Loss	% Increase in Salary
0 - 4	1,536	$16,244	1,437	$25,022	99	6.4	54.8
5 - 9	1,646	19,193	1,523	29,843	123	7.5	55.0
10 - 14	1,568	22,486	1,475	32,983	111	7.0	46.7
15 - 19	905	24,704	766	35,785	139	15.4	44.9
20 - 24	519	26,156	421	36,749	98	18.9	39.5
25 - 29	353	27,899	248	38,568	105	29.7	38.2
30 - 34	197	28,162	119	39,114	78	40.0	38.9
35 - 39	92	27,095	26	34,773	66	71.3	28.3
40 - 44	27	31,235	5	41,654	22	81.5	33.4

Data on Rank has been collected since 1981, both rank of the individual librarians, and the number of steps in the rank structure of the reporting libraries. Rank structures with three, four, and five steps are the most common. Although some libraries have no rank structure, and several report seven or eight steps, the number of individuals in these categories is a small fraction of the ARL University aggregate staff. See Table B for a summary of individuals in the common ranks systems, with comparative data from 1981 and 1985.

Due to the increasing disparity between Canadian and U.S. dollars, Canadian salaries have been converted to U.S. dollars since the 1978-80 edition. This was done to avoid an erroneous calculation of average salaries in those tables that included Canadian members, and to permit their continued inclusion in the rank order tables of median and beginning professional salary. Table C displays the average salary for the Canadian members expressed in Canadian dollars. The format is similar to the main table in the current *Survey*.

In addition to the array of subgroups for whom salary information has been traditionally included in the *Survey* (e.g., private vs. public, regional, by size of professional staff, etc.), I am frequently asked to provide data on recurring popular groupings. Table D is a breakdown of staff size and average salaries for several groups that might be popular with some academic administrators or the Saturday Afternoon alumni.

A frequent use of the *Salary Survey* database is the analysis of a member library's salary structure and pay levels in the context of a self-selected peer group. (The only restriction is that the peers chosen for comparison must all be university members of ARL.) With the 23 job categories that are used for data collection, and a variety of combinations of categories, one may gain useful insight into the competitive position of both the member library's salary structure and the specific areas where problems might occur.

Table E is a sample table from several recent analyses that has been put together as a *hypothetical* example of the data that can be extracted from the database. *It does not represent any specific ARL library*. From this type of analysis, a library can focus on specific jobs or types of positions that may need special attention, and estimate the dollar cost of making desirable adjustments.

In summary, the *Salary Survey* database contains the information for much more than merely generating the annual publication. It has been used successfully in several libraries to justify/articulate/specify how much additional funding is needed to achieve a change in competitive advantage. Numerous other details as suggested by the following tables can be drawn from the available data and included in the publication if there is sufficient interest. The Committee on ARL Statistics and the compiler are open to suggestions for improvement. Please voice your opinions on any of these matters and feel free to raise questions that have not been addressed adequately, or at all, in this paper.

References:

1. *ARL Newsletter*, no. 23, June 12, 1967. Washington, Association of Research Libraries.
2. Talbot, Richard J. and von der Lippe, Ann, *Salary Structures in higher education for the academic year 1975-76*. Chicago, The Association of College and Research Libraries, 1976.

TABLE B

DISTRIBUTION, AVERAGE SALARY AND YEARS OF EXPERIENCE BY RANK

I. Three step rank structure

	Step	Number	Percent	Mean Salary	Mean Experience
1981	Entry	169	19.5	$18,000	5.1 years
	Lib. II	387	44.7	24,700	12.5
	Lib. III	309	35.7	29,800	19.3
1985	Entry	206	16.9	$21,500	5.2 years
	Lib. II	577	47.5	28,900	12.7
	Lib. III	433	35.6	36,300	19.5

II. Four step rank structure

	Step	Number	Percent	Mean Salary	Mean Experience
1981	Entry	674	18.3	$16,900	4.9 years
	Lib. II	1,229	35.3	20,400	10.6
	Lib. III	1,232	33.5	24,400	14.9
	Lib. IV	470	12.8	31,200	20.9
1985	Entry	645	15.7	$21,500	4.4 years
	Lib. II	1,382	33.7	28,900	11.4
	Lib. III	1,485	36.2	36,300	16.1
	Lib. IV	590	14.4	39,100	21.2

III. Five step rank structure

	Step	Number	Percent	Mean Salary	Mean Experience
1981	Entry	25	5.9	$15,200	3.2 years
	Lib. II	73	17.3	17,700	7.9
	Lib. III	162	38.3	21,200	11.7
	Lib. IV	107	25.3	26,500	13.9
	Lib. V	56	13.2	32,900	23.1
1985	Entry	46	6.9	$22,800	6.3 years
	Lib. II	119	17.9	23,100	8.5
	Lib. III	264	40.0	27,700	13.3
	Lib. IV	155	23.3	35,300	16.3
	Lib. V	81	12.2	41,500	21.7

TABLE C

NUMBER AND AVERAGE SALARIES OF ARL CANADIAN UNIVERSITY LIBRARIES, FISCAL YEAR 1986

POSITION	Number of Staff			Average Salaries*		
	Total	*Men*	*Women*	*Combined*	*Men*	*Women*
1. Director	13	8	5	$70,252	$72,431	$66,765
2. Associate Director	19	9	9	54,819	56,729	52,909
3. Assistant Director	18	13	5	51,692	52,122	50,572
4. Branch Head	61	16	45	41,116	44,895	39,773
5. Subject Specialist	64	30	34	38,949	39,959	38,412
6. Functional Specialist	44	23	21	38,661	39,559	39,338
7. Dept. Head: Reference	14	9	5	43,754	45,720	40,215
8. Cataloging	11	4	7	44,391	46,532	43,168
9. Acquisitions	13	8	5	43,586	43,953	42,999
10. Serials	6	0	6	36,317		36,317
11. Documents/Maps	17	6	11	40,040	39,891	40,122
12. Circulation	9	4	5	40,417	38,845	41,675
13. Spec. Coll'n.	11	4	7	41,597	44,621	39,869
14. Computer	3	1	2	**	**	**
15. Other	59	24	35	39,335	40,601	38,467
16. Public Services Staff	54	13	41	34,050	34,610	33,872
17. Technical Services Staff	36	9	27	35,715	37,287	35,191
18. Admin. Services Staff	10	5	5	41,791	47,609	35,973
19. Reference Librarians	144	38	104	33,327	35,329	32,596
20. Cataloging Staff	127	42	83	32,500	35,934	34,829
ALL POSITIONS	732			$38,592		

N.B., Excludes Law and Medical libraries.
* Salaries expressed in Canadian dollars.
** Salary information is not published when fewer than four individuals are involved.

TABLE D

NUMBER AND AVERAGE SALARIES IN FOUR SELF-SELECTING PEER GROUPS, FISCAL YEAR 1986

POSITION	Ivy League (8)			Southeastern Conf. (7*)			Big Ten (10)			Pacific 10 (9*)		
	No.	Salary	Exper.	No.	Salary	Exper.	No.	Salary	Exper.	No.	Salary	Exper.
1. Director	8	$88,816	23.0 yrs	7	$62,724	20.7 yrs	10	$74,343	27.7 yrs	9	$74,956	26.2 yrs
2. Associate Director	16	54,681	21.7	9	43,588	18.8	14	48,242	14.7	11	54,638	15.6
3. Assistant Director	22	47,201	17.7	8	36,917	13.4	33	44,757	20.7	18	43,433	17.5
4. Branch Head	63	36,702	17.4	29	27,883	13.2	114	31,434	16.8	69	35,106	17.0
5. Subject Specialist	82	32,290	10.5	28	24,959	11.2	135	26,976	14.9	56	35,603	18.5
6. Functional Specialist	56	28,588	16.1	24	24,195	8.2	54	28,659	12.2	40	32,239	12.1
7. Dept. Head: Reference	10	35,723	18.1	8	32,647	16.1	11	31,048	13.9	11	35,279	18.9
8. Cataloging	16	35,317	18.4	7	32,301	21.9	9	33,375	16.8	10	39,012	14.9
9. Acquisitions	9	34,334	19.6	7	27,780	11.1	9	32,076	16.6	10	35,091	15.4
10. Serials	9	32,122	15.8	4	30,141	14.8	7	33,509	18.1	7	34,810	14.1
11. Doc./Maps	10	33,609	19.6	8	26,812	11.3	11	28,955	21.6	17	33,550	14.5
12. Circulation	13	25,163	7.0	7	25,932	13.4	8	30,998	12.9	9	32,487	13.2
13. Spec. Coll'n.	13	32,635	14.1	5	32,666	19.2	13	37,663	24.5	11	37,304	20.0
14. Computer	5	46,060	14.0	5	30,702	7.8	6	46,457	17.8	4	48,082	12.3
15. Other	99	32,156	14.6	38	26,655	14.9	69	29,622	13.5	74	36,019	16.9
16. Public Services Staff	51	24,222	11.6	14	21,669	8.9	52	22,066	10.0	80	28,577	12.2
17. Technical Services Staff	36	25,674	12.4	13	21,225	11.5	39	23,893	11.7	65	34,155	16.2
18. Admin. Services Staff	1	**	9.0	3	**	7.7	12	28,839	10.0	11	31,538	12.6
19. Reference Librarian	105	24,880	9.8	84	21,081	9.6	154	24,240	12.9	144	27,296	11.7
20. Catalog Librarian	205	25,121	9.9	61	20,949	11.6	122	23,153	11.6	124	29,201	14.9
ALL POSITIONS	829	$30,319	13.3 yrs	369	$25,612	12.0 yrs	882	$28,566	14.2 yrs	778	$32,910	14.9 yrs

( )Number of ARL libraries in each group.
* Excludes non-ARL members. SEC: Auburn, Mississippi, and Mississippi State; Pac 10: Oregon State.
** Salary information is not published when fewer than 4 individuals are involved.

TABLE E

HYPOTHETICAL U. LIBRARIANS' SALARIES VS. PEER GROUP LIBRARIANS' SALARIES

POSITION	Hypothet. U. Librarians			Peer Group Librarians			Comparisons	
	No. Staff	*Median Salary*	*Median Exper.*	*No. Staff*	*Median Salary*	*Median Exper.*	*Salary Index*	*Exper. Index*
All Staff	87	$29,522	13.6 yrs	1,029	$28,428	14.3 yrs	+3.8	−4.9
Director	1	72,345	14.0	11	73,800	28.0	−2.0	−50.0
Associate Director	2	47,088	11.8	19	52,918	15.8	−11.0	−27.2
Assistant Director	2	43,467	26.5	33	44,400	18.4	−2.1	+44.0
Head, Branch	10	26,965	16.5	122	31,686	14.8	−14.9	+11.5
Functional Specialist	9	24,511	10.0	44	31,325	12.0	−21.8	−16.7
Subject Specialist	9	34,205	22.0	148	27,500	14.4	+24.4	+52.8
Head, Acquisitions	1	36,684	25.0	10	32,317	15.0	+13.5	+66.7
Head, Reference	1	32,910	12.0	12	32,072	15.5	+2.6	−22.6
Head, Catalog	1	33,674	37.0	10	36,990	16.5	−9.0	+124.2
Head, Serials	1	32,123	21.0	7	34,600	16.0	−7.2	+31.3
Head, Documents/Maps	2	28,764	6.5	16	27,600	18.0	+4.2	−63.9
Head, Circulation	1	29,404	8.0	9	31,080	12.8	−5.4	−37.5
Head, Rare Books	1	34,549	20.0	17	37,472	22.7	−7.8	−11.9
Head, Computer	1	43,500	9.0	7	45,475	14.8	−4.3	−39.2
Head, Other	9	27,175	11.0	95	30,240	14.4	−10.1	−23.6
Public Services	5	22,000	10.0	85	24,456	10.6	−10.0	−5.7
Technical Services	4	24,792	11.0	75	29,820	14.9	−16.9	−26.2
Administration	1	24,888	13.0	18	28,464	9.2	−12.6	+41.3
Reference	18	23,593	10.0	172	25,002	12.3	−5.6	−18.7
Cataloger	11	22,475	15.0	139	23,680	14.3	−5.1	+4.9
BrHds & SS	22	30,267	17.2	290	28,780	14.6	+5.5	+17.8
Department Heads	15	30,873	12.3	186	32,041	15.1	−3.6	−18.5
Non-supervisor	57	24,497	13.3	721	26,396	13.0	−7.2	+2.3
Librarians, by rank								
Librarians I	4	$20,442	2.5 yrs	102	$19,500	2.5 yrs	+4.8	0
II	27	23,692	11.5	209	24,600	13.6	−3.7	−15.4
III	25	27,894	13.5	199	27,500	15.0	+1.4	−10.0
IV	19	34,569	16.5	83	38,500	21.8	−10.2	−24.3

APPENDIX D

ACTIVITIES AND STATUS REPORT

Association of Research Libraries
October 1985-April 1986

The Association continues to make progress on a variety of fronts in pursuit of the objectives adopted by the Membership in May 1983, thanks to the active involvement of directors on Committees and on the Board, and to staff support, facilitation, and coordination of Committee and Board activity and the ongoing functional responsibilities of the Office.

To effectively address the major issues facing research libraries we must gain the sympathetic attention and support of a variety of groups whose interests correspond to or overlap our own, and whose actions can aid in solving some of our more complex problems. Federal legislators are one of these groups. ARL members took significant steps to improve Congressional understanding of the issues of importance to research libraries during the October 1985 Meeting. The individual and group visits with Senators, Representatives and their staffs have proved to be very useful, both in the weeks immediately after the October Meeting and in the months since then. An enhanced understanding of the coordinative benefits of various funding programs (Title II-C, NEH, and L.C. funding) is one positive result of these visits. In addition, access to staff members and legislators has been facilitated, and ARL's standing as an important, if small, constituency has been enhanced. A number of directors who participated in ARL's day on Capitol Hill have reported that they now feel more at ease in contacting legislators, and several also reported that they have been contacted by Congressional staff members from time to time.

Office Activities

Automation. In my last report to the membership, I described the automation plans for the ARL Office. Hardware installation, software development and testing, and data input were originally scheduled for completion by the end of December. Unfortunately, a series of delays were encountered both in the delivery of hardware and in the completion of software development. We now anticipate that all work will be completed by the end of May, but the problems and delays have been the cause of frustration and additional work for staff. However, the ARL Office does now have an electronic mail capability with ALANET; our directory name is ARL.HQ, our identification number is ALA0180. You may use either to reach us. Most negative experiences have a positive aspect; the positive aspect of our office automation is the development of a more sympathetic appreciation of the problems that some of you have had to endure in automating operations.

CCRM. For the past two years, the Center for Chinese Research Materials has been unsuccessfully seeking foundation support for its program of bibliographic service and republishing. In October, the ARL Board decided that ARL must plan for the inevitable closing of the Center in the event that additional funding could not be found, and that ARL's administrative relationship with CCRM should be terminated in any case. Accordingly, we have been working closely with the Advisory Committee of the Center to explore alternatives for the

Center's future. The Advisory Committee met in March to review options and consider what should be done about CCRM staff and inventory in the terminal period of ARL's administration. Options being explored are to transfer CCRM operations to a commercial publisher, or to establish it as a private business. Information gathering on these alternatives will be completed by mid-June, and the Advisory Committee will make its final decision by June 30.

Publications. Three issues of the *ARL Newsletter* were published between October 1985 and April 1986. The *ARL Statistics* (1984-85) was slightly delayed by data transmission problems; and the index was not included in this year's publication, but was sent separately to all directors on March 24. The 1985 edition of the *ARL Annual Salary Survey*, and the *Minutes of the 107th Meeting* (Oct. 1985) were also issued during this period.

In addition to these regular Association titles, we have recently published a new monograph, *The Gerould Statistics*, by Robert Molyneux. This study reproduces and analyzes the statistical series on university libraries first collected by James Thayer Gerould at the University of Minnesota in 1908, and continued by the Princeton University Library from 1920-1962. These statistics are the precursors of the ARL statistics program, and Mr. Molyneux's analysis of them illuminates trends and relationships among the various statistical elements. *The Gerould Statistics*, along with *Cumulated ARL University Library Statistics: 1962-63 through 1978-79*, by Kendon Stubbs and David Buxton, and the annual *ARL Statistics*, comprise the longest and most comprehensive data series on libraries available.

OMS. Nine management skills institutes were conducted during the period of this report, and a Management Institute for Assistant/Associate Directors has been planned for August. In addition, a new Leadership Development Program was developed and tested at Yale University, and is now available for other ARL libraries. The SPEC Center published six kits, an occasional paper on the determination of telecommunications policies in universities, and a revised version of the *Automation Inventory*. These activities reflect OMS's on-going emphasis on staff development, the improvement of management capabilities, and the provision of information for managing in research libraries. More detail on OMS activities may be found in the OMS Status Report.

Member and External Relations. I continue to spend a good deal of time in these endeavors. In March, I traveled to the University of Pittsburgh to talk with Anne Woodsworth and her staff, combining this visit with some preliminary planning for the 1987 Spring Membership Meeting. I also served as a member of the Executive Committee of the National Humanities Alliance, and was elected to the NHA Board of Directors in April. In addition, I attended the meeting of the Research Libraries in OCLC in March, and the Annual Meeting of the American Council of Learned Societies in April. At the latter, I distributed the report of the ARL Task Force on Scholarly Communication at the working meeting of the ACLS Conference of Secretaries, and said that we hope to involve colleagues in the scholarly community in a dialogue about the issues raised in the paper. Charles Osburn will present the Task Force report at upcoming meetings of the Society for Scholarly Publishing in May and the Modern Language Association in December.

Legislative Activities

A fifth year of Presidential recommendations of zero dollars for library programs in FY 87, coupled with a Presidential proposal for immediate rescission or 'deappropriation' of FY 86 funds for HEA Title II and LSCA II and VI programs, has been further complicated by the Congressional action to reduce the federal deficit by making across-the-board budget cuts. ARL's position on federal funding for library programs was stated in a letter sent to each member of the House and Senate Appropriation Committees. Citing the 20% decline since

1980 in real dollars for federal spending for education and library programs, ARL urged that the President's proposal for rescissions be rejected, and that Congress establish education and library programs as a federal funding priority.

The first round of budget cuts prescribed by the Gramm-Rudman-Hollings deficit reduction law took effect in March. The impact of the $18.3 million reduction in funds available for the Library of Congress is significant for all research libraries. I testified on behalf of ARL before the House Legislative Branch Appropriations Subcommittee hearings on the FY 87 budget for LC, emphasizing the serious consequences of the cuts in the Library's budget, and supporting the LC budget request for FY 87. A written statement making the same points has been submitted to the Senate Appropriations subcommittee with jurisdiction over the Library's budget.

ARL's recommendation for funding levels for library programs for FY 87 has been to maintain current service levels. Merrily Taylor represented ARL at hearings before the House Subcommittee considering appropriations for the National Endowment for the Humanities and a written statement was submitted to the House and Senate subcommittees with jurisdiction over the library programs administered by the Department of Education.

Reauthorization of the National Endowment for the Humanities for the next five years was approved in December and Lynne Cheney has been nominated by the President to serve as NEH Chairman.

The Higher Education Act is still working its way through the reauthorization process. The House passed a bill to reauthorize HEA last December (H.R. 3700) and the Senate bill (§. 1965) is expected to come to the floor for a vote in May. The Office will alert you when it is time for the Senate and the House to reconcile differences in the two bills. We will need your help if the final legislation is to contain all of ARL's recommendations. Especially vulnerable, as they are lacking in the Senate bill, are: reasonable authorization levels; provision for a College Library Technology program (II-D); and, authorization for appropriations in Title VI to help libraries acquire and preserve periodicals published abroad.

Last fall I reported to you that ARL staff have held discussions with Congressional staff about the importance of ensuring that projects financed by federal funds meet nationally accepted standards and/or guidelines whenever possible. These conversations have been rewarded once again by the presence of such language in the House report accompanying H.R. 3700 specifically addressing the HEA II-C program.

Also related to the II-C program, ARL submitted favorable comments to the Department of Education regarding their proposal to amend the regulations for the program by exempting libraries that have successfully established their eligibility to compete in the program within the previous four years from submitting Part One of the application. The Department adopted the revision and it was instituted for the FY 86 applications cycle.

In December, without further opportunity for public comment, the Office of Management and Budget issued Circular A-130, Management of Federal Information Resources. The Circular codifies previous Administration practice and is expected to have a chilling effect on government information programs. The Office continues to monitor the impact of the policies adopted in the Circular and will alert you if we identify developments that should be brought to your attention.

On April 8, the House Postsecondary Education Subcommittee held hearings on the impact of the Administration's budget proposals and policy initiatives on libraries. Susan Martin represented ARL at these hearings, testifying about the impact of the budget cuts at national libraries on other libraries, on the importance of the HEA programs for helping libraries to fulfill their mission in the academic community, and on trends limiting access to government information.

In light of recent legislative and regulatory activity affecting research libraries, the Board established an ARL Committee on Government Policies. The Committee, chaired by James Wyatt will provide continuing advice and guidance to the ARL Office and advise the Board on trends and strategies.

Projects and Programs

ARL Recon Project. More than thirty ARL libraries are involved in planning or considering coordinated projects in the subject areas of technology, Slavic studies, agriculture, and Latin American studies. RLG and OCLC have agreed to a reciprocal tape exchange of records created as part of the Project. Updated information on recon activity in ARL libraries is being gathered as the foundation for developing an information clearinghouse and identifying high priority areas for coordinated projects. Guidelines for participating in projects coordinated by ARL will be distributed in May. More information on this Project may be found in the March *ARL Newsletter*.

NCIP. Phase III of the North American Collections Inventory Project approaches the end of its first year of funded activity with a record of solid success. Fifteen collection development librarians from the US and Canada have completed training so that they can provide consultation and training services to libraries working on the Conspectus. The University of California NCIP project is well underway, as is the CARL project. The first issue of a newsletter, *NCIP News*, was published in February, and six to eight issues per year are planned. A survey on ARL member library plans for participation in NCIP was mailed to member libraries in April, to elicit information for planning future activities and identifying specific institutional needs. David Farrell, of Indiana University, continues to serve as ARL's representative to the RLG Conspectus Task Force, bring specific issues and problems that come to light in NCIP participant libraries to the Task Force for discussion and resolution.

The National Register of Microform Masters (NRMM). In October, the Board of Directors instructed ARL staff to seek funding to automate monographic records in the NRMM Master File. Requests for information from possible contractors were solicited, and a proposal was developed and sent to the National Endowment for the Humanities and the Mellon Foundation. NEH staff and panel review of the proposal has been completed, and the proposal will be forwarded to the NEH Council with a favorable recommendation for consideration at the Council's May meeting. The Mellon Board will review the proposal in October; and several other foundations are being contacted as to their interest in participating in the support of this project. The NRMM proposal has importance both for preservation and for access to retrospective bibliographic records. It has been reviewed and endorsed by two ARL Committees, the Committee on Bibliographic Control and the Committee on the Preservation of Research Library Materials. Conversion of the NRMM files also received a high priority at the recent conference on preservation sponsored by the Council on Library Resources. Its accomplishment will add information on preservation masters for approximately one-half million titles to the national database. The Library of Congress and ARL are working closely together on this project, and LC has pledged a significant in-kind commitment to its completion in spite of recently imposed cuts in its budget.

The Institute for Library Educators. Participants have been selected and final plans are being made for the second ARL Institute on Research Libraries for Library Science Faculty, which will be held in Boston July 28-August 8. Hosts for the second Institute are the Massachusetts Institute of Technology and the Simmons School of Library and Information Science. The first Institute was held in 1984 and hosted by the University of North Carolina at Chapel Hill, North

Carolina State University, and Duke University. Additional information on the Institute may be found in the March 1986 issues of the *ARL Newsletter*

Conclusion

This is my tenth report to the ARL Membership. In reviewing previous reports in preparation for writing this one, I was struck by the fact that the Association has steadily progressed in its mission of actively supporting member institutions in their efforts to improve the management of research libraries, to develop new and exciting opportunities for staff development, to enhance preservation efforts in member libraries, to improve systems of access to the materials in these libraries, and to participate actively in the changes taking place in the scholarly communications system. Major problems in all of these areas remain to be addressed, and some of these seem intractable for a variety of economic, political, or technical reasons. ARL's approach has been to identify specific areas that may yield to practical solutions, to concentrate staff and membership expertise on these areas, and to engage the interest and commitment of those who share a concern for their solution. While there is not universal agreement, even among the membership, about specific priorities and approaches, we have worked together successfully on a broad range of problems. In my opinion, the Membership of ARL has built a record of achievement during the last five years in which it can rightly take considerable pride.

APPENDIX E

STATUS OF OMS PROGRAMS

Office of Management Studies
October 1985-April 1986

1. Separately Funded and Developmental Projects

Program to Support National and Regional Cooperative Collection Development. In June 1984 the Andrew W. Mellon Foundation funded a proposal to continue the work of Phases I and II of the North American Collections Inventory Project (NCIP). The $22,000 grant will support the development of training resources, a materials distribution center, and the support system needed to coordinate the participation of ARL libraries in NCIP.

Current work on Phase III of the North American Collections Inventory Project (NCIP) has emphasized development and operation of training programs for collection development librarians during the past six months. Activities included three-day workshops in Calgary and Toronto for members of the Canadian Association of Research Libraries and a "training the trainers" workshop for fifteen selected librarians in Boston. ARL continues to work with the Research Libraries Group in the development of Conspectus-related tools through its representation on the RLG Task Force on Conspectus Analysis. The OMS now serves as the NCIP publications clearinghouse for non-RLG libraries and has begun publication of the *NCIP News*, a periodic newsletter aimed at informing project participants of developments in the project.

Institute on Research Libraries for Library and Information Science Faculty. A two-week Institute on Research Libraries for Library Science Faculty will be operated by ARL's Office of Management Studies in the summer of 1986 with sponsorship of a grant of $45,857 from the Council on Library Resources. The purpose of the institute is to enrich library educators' understanding of research library issues and to study the forces that characterize and influence the current and future status of research libraries.

The 1986 Institute will be held in Cambridge, Massachusetts, July 28 through August 8, and will be hosted by the Massachusetts Institute of Technology and the Simmons School of Library and Information Science. Building on the first institute, which was held in June 1984, it will include seminars and workshops with active involvement of the selected participants, librarians, library directors, and university administrators. Each participant will conduct a field visit to a major research library in advance of the two-week session. A new feature of this year's Institute will be a series of case studies involving the programs and concerns of the research libraries in the Boston area. Senior managers from Harvard University, Boston University, MIT, and the Boston Public Library will provide these briefings.

Participation is being limited to library school faculty members who are interested in teaching about research libraries. Twelve individuals were chosen in a nationwide nomination and screening process last fall. The Institute's Advisory Committee — comprising library school faculty and deans as well as research library administrators — selected the participants based on each applicant's background, experience, research, and instructional interests as well as the individual's potential for influencing the development of research librarians in the future.

National Endowment for the Humanities/Preservation Planning Studies. Activities are proceeding as planned for the ten libraries selected to participate in the Preservation Planning Program

aspart of the two-year demonstration project funded by a $65,375 grant from the National Endowment for the Humanities. Two libraries — the State University of New York at Stony Brook and Colorado State University — have completed studies, and their final study reports are now available from the OMS. The remaining libraries — the Center for Research Libraries, Northwestern University, the University of Oregon, the Smithsonian Institution, the University of Tennessee at Knoxville, Iowa State University, the University of Missouri at Columbia, and Ohio State University — are proceeding with their studies. A request to extend the project schedule for completion until December 1986 was submitted to the NEH.

II. Core OMS Programs Supported by Cost Recovery and the ARL Dues Allotment

1. Development of new projects or services. A new Leadership Development Program is a specialized training program available to ARL members from OMS. The model of the program was designed for Yale University to assist in building commitment to a strategy for future library development among senior management staff at a retreat held in Connecticut on January 5-8, 1986. The design allows for approximately 25 library staff members to meet for 3 1/2 days in a retreat format. The following agenda can be modified to suit individual library needs:

- Review of library's history, with discussion of how traditions and current practices are likely to influence planning for the future.
- Identification of current developments and trends in higher education in general and at the specific institution, and possible implications for the library.
- Examination of forces for change in academic libraries and discussion of possible responses.
- Review of problems, issues, and concerns the library faces, and consideration of how to meet challenges over the short and long term.
- Presentation of current concepts and techniques in strategic planning and how to employ them at the library.
- Consideration of organizational values and personal values, and how they may influence planning efforts and the programs and services of the library.
- Assessment of individual styles and discussion of how to strengthen working relationships.
- Overview of the process of organizational change, and discussion of how to manage that process more effectively and respond to the needs of the individuals involved.
- Review of how information is transmitted within the library, formally and informally, and discussion of how to improve communication.
- Assessment of library-wide staff development needs and programs.

OMS will offer a Management Institute for Assistant and Associate Directors in ARL Libraries this summer. Patterned after the Management Institute for ARL Directors, this Institute will explore three broad themes: strategic planning, organizational change, and the role and use of power and influence in academic and research libraries. The Institute will provide a model-based examination of the three management themes, while also providing an opportunity for senior managers from ARL libraries to meet and explore issues with others who share the common organizational experiences of large academic and research libraries. The 3 1/2-day Institute will be held in Annapolis, Md. August 24-27, 1986.

2. Academic Library Program. During this period, nine self-studies were operational: five collection studies, two public services studies, and two academic library development studies.

3. Systems and Procedures Exchange Center. During this period, six kits were produced: Unionization (October), Catalog Maintenance Online (November-December), Exhibits (January), Bibliographic Instruction (February), End-User Searching Services (March), Microcomputer Software Policies (April).

A 45-page Occasional Paper, "Academic Libraries on the Periphery: How Telecommunications Information Policy is Determined in Universities," was published in April 1986.

A revised version of the Automation Inventory was developed, and updated information is being requested from ARL members for use in the database and a 1986-87 publication.

A collaborative research project with the National Library of Medicine's Lister Hill Center was begun, which will explore automation expenditures of selected ARL libraries. The Statistics Committee is also cooperating with this project.

On-demand surveys were conducted on approval plans, director reporting relationships, analysis of professional positions, employee access and security, and microcomputer software policies.

Over 40 members were assisted in signing up for an ARL electronic mail service with ALANET.

4. The Training and Staff Development Program. During this period the following training events were conducted:

- Public Basic Management Skills Institute - Denver
- Public Advanced Management Skills Institute - Boston
- Public Analytical Skills Institute - San Diego
- Sponsored Basic Management Skills Institute - Columbia
- Directors Management Skills Institute - Washington
- Sponsored Analytical Skills Institute - Emory University
- Public Advanced Management Skills Institute - St. Louis
- Sponsored Basic Management Skills Institute - Brown
- Public Basic Management Skills Institute - Louisville

The 1986 schedule of Public Management Skills Institutes was announced:

Basic:	November 18-21, 1986	Scottsdale, Arizona
Advanced:	Sept. 28-Oct. 3, 1986	Airlie, Virginia
Analytical Skills:	June 3-6, 1986	Montreal, Canada
	December 1-4, 1986	Seattle, Washington
Management Institute for Assistant/Associate Directors in ARL Libraries:		
	August 24-27, 1986	Annapolis, Maryland

III. OMS Staff Work with ARL Committees

ARL Committee on Management of Research Libraries. The committee reviewed OMS program priorities at its meeting on January 23, 24.

ARL Collection Management Committee. OMS staff met with the committee to review progress of the NCIP Phase III project in February 1986.

ARL Statistics Committee. Committee members and OMS staff are coordinating efforts to improve and update statistics-gathering, and are pooling knowledge regarding survey techniques.

APPENDIX F

[Excerpts]

Annual Report

1985

Duane E. Webster, Deputy Executive Director, ARL;
Director, OMS
Jeffrey J. Gardner, Associate
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Introduction

A recent study of executives in a variety of successful enterprises concludes that leaders are not born. They are developed—emerging when organizations face new problems and complexities that cannot be solved by unguided evolution. These individuals assume responsibilities for reshaping organizational practices to make them more adaptive to reflect environmental changes. They direct organizational changes that build confidence and empower their staff to seeek new ways of doing things. They overcome resistance to change by creating visions of the future that evoke confidence in and mastery of new organizational practices. (Bennis, Warren and Burt Nanus. *Leaders: The Strategies for Taking Charge*. New York: Harper and Row, 1985.)

The ARL Office of Management Studies has sought since its inception to encourage such leadership in research library management. Through training in management concepts and techniques and provision of timely information on changes in current operating practices, the Office has supported leadership that is open to new ideas, adaptable to changing circumstances, and active in influencing evolving structures and capabilities. At the core of this OMS philosophy is commitment to the continuing development both of individuals and of the library organizations comprising the Association of Research Libraries.

With this commitment to change and improvement, the Office continues to review and strengthen its resources and services. In the last year, the OMS initiated a new service to provide information on the automation capabilities and expenditures of research libraries. The Office also started a new training program on analytical skills to assist library managers in improving problem-solving and research skills.

In another area, the OMS designed a series of organizational projections intended to portray distinct options for long-term development of research libraries (see Appendix A, last citation). These projections first were used to anticipate future staffing issues at an ARL membership meeting. During 1985, they have been used by several member libraries to develop strategic plans and organizational development programs. For example, the Yale University Libraries asked the OMS to use these projections to focus discussions among senior managers in a Leadership Development Program. Such new resources and services fit into an evolving program that is constantly adapting to the needs and interests of research library managers.

The development of innovative leadership in research libraries is a long-term process requiring energy and resources. For over 15 years the OMS has worked closely with academic and research libraries to design and operate strategies for developing staff and libraries. Through consultation and assisted self-studies, libraries can strengthen organizational structures and plan for change. Through management and analytical skills training, libraries can improve the performance of managers and staff. And through an information clearinghouse, libraries can share materials and ideas related to operational concerns and practices.

This report reviews the last year's efforts in these areas, noting resources available as well as achievements recorded. In addition, the report briefly notes prospective OMS programs that are being developed with the advice of the ARL Committee on Management of Research Library Resources. Current topics receiving emphasis in OMS programs include: strategic planning, participative management, interpersonal skills, analytical skills, executive decision-making, organizational development, and team building. During 1986, the search for financial support in designing a technical services self-study will continue. In addition, the OMS will continue to investigate the structure of research libraries, especially with regard to the way jobs are designed and the nature of reporting relationships.

The Bennis and Nanus book on leadership noted earlier observes that, "Managers are people who do things right and leaders are people who do the right thing." The difference is not in mastery of techniques or abundance of practical experience. Rather the difference is related to vision and judgement. The success of the OMS efforts can only be a function of the extent to which the emerging leaders of research libraries demonstrate the ability to create and communicate such vision. These emerging leaders must display the judgement required to concentrate limited resources to meet the changing needs of their institutions.

— Duane E. Webster

Highlights of OMS Activities in 1985

Level of activity. OMS staff conducted 22 self-studies and 38 training events, working directly in 36 member libraries. Over 2,000 individuals participated in Office activities. Sales of services and resources generated $300,000 in revenue.

Academic Library Program. Five libraries worked with Collection Analysis Projects, two with Public Services Studies, two with the Planning Program for Small Academic Libraries, and one with the Preservation Planning Program. One library was active in the Academic Library Development Program and one in the Organizational Screening Program.

Preservation. In addition, ten ARL libraries conducted preservation self-studies sponsored under the two-year, $65,375 grant awarded in 1984 by the National Endowment for the Humanities. The Office received final reports of two self-studies.

Collections Inventory. The Andrew W. Mellon Foundation awarded $220,000 to ARL to develop an online inventory of research library collections. OMS staff are managing this North American Collections Inventory Project.

Research Libraries Institute. With a Council on Library Resources grant of $45,857, the OMS planned a second Institute on Research Libraries for Library Science Faculty, to be held in 1986.

Analytical Skills. Staff developed and presented a new OMS training event, the Analytical Skills Institute, which participants at two pilot locations—the University of Pittsburgh and the University of San Diego—rated highly successful.

Training. Activities included seven Basic Management Skills Institutes, two Advanced Institutes, two Analytical Skills Institutes and an Institute for Library Directors. Staff also conducted 26 special focus workshops and other events. Over 1,100 library staff members participated in OMS training events during 1985.

The Automation Inventory. The Systems and Procedures Exchange Center published *The Automation Inventory of Research Libraries* and provided searches of the Inventory database.

Publications and Information. The Center issued two Occasional Papers and one manual; published ten SPEC Kits and Flyers; maintained 400 subscriptions; and distributed over 3,500 publications. Staff answered 1,300 requests for information.

ARL Committees. OMS staff supported the work of five ARL committees and conducted a program element on the Public Services Study for the spring ARL membership meeting.

OMS Finances. Total OMS expenditures for 1985 were $451,506. Support included the ARL dues subsidy ($115,500), revenue from use of services and resources ($316,153), and project support from foundations.

OMS Priorities for 1986

Office staff, in collaboration with the ARL Committee on Management of Research Libraries, prepare a detailed statement of priorities each year, which is used for planning and performance review. The following are highlights from that document.

Academic Library Program

The OMS expects to begin up to 10 new library studies in the areas of collection analysis, preservation planning, and public services, with OMS staff sharing the workload with consultant trainees. These three areas are expected to attract most member interest and participation. The remaining participants in the NEH-sponsored Preservation Planning Program studies will finish their work in 1986.

Information Exchange and Publications Program

The information clearinghouse continues to build member services such as specialized on-demand surveys and databases, and to expand use of electronic mail to facilitate communications between members and the Office. The Center will publish ten SPEC Kits and Flyers and conduct five to ten on-demand surveys, working with collaborative research/writers from ARL member libraries to produce many of the Kits plus several additional publications. Kit topics for 1986 include: technical services cost studies; policies for microcomputer software acquisition and circulation; barcoding library collections for automated systems; exhibits in libraries; role of the library in serving the end user; bibliographic instruction; interlibrary loan services; integrated and interfaced library systems; retrospective conversion; and disk technologies: laser, optical, compact, video.

Staff expect no more than three all-member surveys, and three targeted surveys. The document circulation and file search services will operate at an anticipated level of 15 requests per month, and updated editions of the *SPEC Index* and the *Electronic Mail Directory* will be published.

The Office plans to develop two or three experimental databases as part of information services for members. The Automation Inventory database probably will cover more than 100 libraries when 1986 data is collected and made available. With the additional information available, search services for the database will be expanded.

Organizational Training and Staff Development

The OMS will conduct six major public institutes and an equal number of sponsored training events, and explore ideas for several new training programs, including a management institute for associate/assistant directors/university librarians. Public Institutes will include two basic and two advanced Management Skills Institutes, two Analytical Skills Institutes, and a Management Institute for ARL Directors. Staff and consultant trainees will conduct up to eight additional Management Skills Institutes on a sponsored basis, as well as a maximum of 15 Special Focus Workshops. In addition, the Office expects to revise the Basic and Advanced Management Skills Institute Notebooks.

In the training area, staff will investigate additional analytical and quantitative programs. Under consideration are programs in the budgeting and fiscal control areas as well as a review of characteristics of leaders in the library profession.

Research and Development

Research and development priorities include separately funded projects, efforts to begin new programs, and OMS assistance to research projects operated by other agencies. Major 1986 efforts include operating the North American Collections Inventory Project, conducting the Institute on Research Libraries for Library Science Faculty, completing the NEH-funded Preservation Planning Program demonstration studies, and developing a new self-study initiative in the technical services area.

In the NCIP, Phase III of the project will be operated. Activities include training participating librarians, developing assessment tools, promoting ARL member participation in NCIP, and providing educational materials for public service staff and library users. More exploration of cooperative collection development projects will take place.

The Office will conduct the second Institute on Research Libraries for Library Science Faculty July 28-August 8 in the Boston area. A number of ARL libraries will serve as sites for the 12 participants' field

visits, and four libraries in Cambridge and Boston will be helping to operate the two-week event.

With the NEH project studies nearing completion, staff will consider the next steps in obtaining support for member libraries' preservation planning. Securing funding to undertake revisions of the *Preservation Planning Program Manual* and *Preservation Resource Notebook* is one possibility.

Other Priorities

OMS staff will work closely with the ARL Committee on Management, and other ARL committees as needed, including the Collection Development, Bibliographic Control, Statistics, and Preservation Committees.

Appendices

Appendix A
Staff and Program Publications
1985

The Automation Inventory of Research Libraries. Washington, D.C., OMS, August, 1985.

"Automation Inventory of Research Libraries," *RTSD Newsletter* 10 (1985): 50-1.

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NCIP Materials

L.C.-Dewey Conversion Table

Brief Instructions for Completing Worksheets for NCIP

Complete Set of Conspectus Worksheets

Sections of the NCIP Conspectus
- Agriculture
- Art and Architecture
- Biology and Natural Sciences
- Cartographic Materials
- East Asian Studies
- Economics and Sociology
- Education
- Government Documents
- History and Auxiliary Sciences
- Latin American Studies
- Law
- Linguistics, Languages and Literature
- Medicine and Health Sciences
- Music
- Philosophy and Religion
- Physical Geography and Earth Sciences
- Physical Sciences
- Political Science
- Psychology
- South Asian Studies
- Technology

Verification Studies
- Agricultural Economics
- Art and Architecture, Renaissance/Baroque
- English Literature
- French Literature
- Mathematics
- Russian History and Literature
- Scripture Study
- Swiss History

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#110, January
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#111, February
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#112, March
Preservation Education
#113, April
Binding Operations
#114, May
Photocopy Services
#115, June
Organizing for Preservation
#116, July-August
The Gifts and Exchange Function
#117, September
Unionization
#118, October
Catalog Maintenance
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APPENDIX G

ATTENDANCE AT 108th MEMBERSHIP MEETING

Minneapolis, Minnesota
May 1-2, 1986

University of Alabama Libraries
Douglas E. Jones

University of Alberta Library
Not Represented

University of Arizona Library
W. David Laird

Arizona State University Library
Donald Riggs

Boston Public Library
Not Represented

Boston University Library
John Laucus

Brigham Young University Library
Not Represented

University of British Columbia Library
Not Represented

Brown University Library
Merrily Taylor

University of California, Berkeley Library
Joseph Rosenthal

University of California, Davis Library
Marilyn Sharrow

University of California, Irvine Library
Calvin J. Boyer

University of California, Los Angeles Library
Russell Shank

University of California, Riverside Library
John Tanno

University of California, San Diego Library
Dorothy Gregor

University of California, Santa Barbara Library
Joseph A. Boissé

Canada Inst. for Scientific & Technical Info.
Inez Heseltine

Case Western Reserve University Libraries
James E. Bobick

Center for Research Libraries
Not Represented

University of Chicago Library
Howard Dillon

University of Cincinnati Libraries
Charles B. Osburn

University of Colorado Library
Leo Cabell

Colorado State University Library
Joan Chambers

Columbia University Libraries
Patricia Battin

University of Connecticut Library
John P. McDonald

Cornell University Libraries
Not Represented

Dartmouth College Libraries
Margaret A. Otto

University of Delaware Library
Susan Brynteson

Duke University Libraries
Jerry D. Campbell

Emory University Library
Herbert F. Johnson

University of Florida Libraries
Dale Canelas

Florida State University Library
Charles E. Miller

Georgetown University Library
Joseph E. Jeffs

University of Georgia Libraries
David F. Bishop

Georgia Institute of Technology Library
Not Represented

University of Guelph Library
Not Represented

Harvard University Library
Dale Flecker

University of Hawaii Library
John R. Haak

University of Houston Libraries
Robin Downes

Howard University Libraries
Not Represented

University of Illinois Library
Hugh C. Atkinson

Indiana University Libraries
Elaine F. Sloan

University of Iowa Libraries
Not Represented

Iowa State University Library
Warren B. Kuhn

Johns Hopkins University Library
Susan K. Martin

University of Kansas Library
Clinton Howard

University of Kentucky Libraries
Not Represented

Kent State University Libraries
Don Tolliver

Laval University Library
Not Represented

Library of Congress
Not Represented

Linda Hall Library
Not Represented

Louisiana State University Library
Sharon Hogan

McGill University Library
Not Represented

McMaster University Library
Graham R. Hill

University of Manitoba Libraries
Not Represented

University of Maryland Library
H. Joanne Harrar

University of Massachusetts Libraries
Richard J. Talbot

Massachusetts Inst. of Technology Librs.
Jay K. Lucker

University of Miami Library
Frank Rodgers

University of Michigan Library
Richard M. Dougherty

Michigan State University Library
Richard E. Chapin

University of Minnesota Libraries
Eldred Smith

University of Missouri Library
Thomas W. Shaughnessy

National Agricultural Library
Not Represented

National Library of Canada
Marianne Scott

National Library of Medicine
Lois A. Colaianni

University of Nebraska-Lincoln Libraries
Kent Hendrickson

Newberry Library
Not Represented

University of New Mexico Library
Alice Clark

New York Public Library
Paul Fasana

New York State Library
Jerome Yavarkovsky

New York University Libraries
Not Represented

University of North Carolina Libraries
James F. Govan

North Carolina State University Library
I.T. Littleton

Northwestern University Libraries
Not Represented

University of Notre Dame Libraries
Robert C. Miller

Ohio State University Libraries
William J. Studer

University of Oklahoma Library
Not Represented

Oklahoma State University Library
Roscoe Rouse

University of Oregon Library
George W. Shipman

University of Pennsylvania Libraries
Richard De Gennaro

Pennsylvania State University Library
Suzanne Striedieck

University of Pittsburgh Libraries
Anne Woodsworth

Princeton University Library
Donald Koepp

Purdue University Library
Joseph M. Dagnese

Queen's University Library
Not Represented

Rice University Library
Samuel Carrington

University of Rochester Libraries
James F. Wyatt

Rutgers University Library
Ralph E. McCoy

University of Saskatchewan Library
Not Represented

Smithsonian Institution Libraries
Robert Maloy

University of South Carolina Library
Kenneth E. Toombs

University of Southern California Library
Not Represented

Southern Illinois University Library
Kenneth G. Peterson

Stanford University Libraries
David C. Weber

State Univ. of New York at Albany Libraries
Not Represented

State Univ. of New York at Buffalo Libraries
Barbara Von Wahlde

State Univ. of New York at Stony Brook Library
Esther J. Walls

Syracuse University Libraries
Metod M. Milac

Temple University Library
James Myers

University of Tennessee Libraries
Donald R. Hunt

University of Texas Libraries
Not Represented

Texas A & M University Library
Evelyn King

University of Toronto Libraries
Not Represented

Tulane University Library
Philip E. Leinbach

University of Utah Libraries
Roger K. Hanson

Vanderbilt University Library
Malcolm Getz

Virginia Polytechnic Inst. & State Univ.
Paul Gherman

University of Virginia Libraries
Kendon Stubbs

University of Washington Library
Nancy L. Baker

Washington State University Library
Maureen Pastine

Washington University Libraries
Nicholas Burckel

University of Waterloo Library
Murray Shepherd

Wayne State University Libraries
Peter Spyers-Duran

University of Western Ontario Library
Robert Lee

University of Wisconsin Libraries
D. Kaye Gapen

Yale University Libraries
Millicent Abell

York University Libraries
Ellen Hoffmann

ATTENDANCE BY THE MEMBERSHIP - NAME INDEX

Abell, Millicent D.	Yale University Libraries
Albrecht, Sterling J.	Brigham Young University Library
Atkinson, Hugh C.	University of Illinois Library
Baker, Nancy L.	University of Washington Library
Battin, Patricia	Columbia University Libraries
Bishop, David F.	University of Georgia Libraries
Bobick, James E.	Case Western Reserve University Libraries
Boissé, Joseph A.	University of California, Santa Barbara Library
Boyer, Calvin J.	University of California, Irvine Library
Brynteson, Susan	University of Delaware Library
Burckel, Nicholas	Washington University Libraries
Cabell, Leo.	University of Colorado Library
Campbell, Jerry D.	Duke University Libraries
Canelas, Dale	University of Florida Libraries
Carrington, Samuel	Rice University Library
Chambers, Joan	Colorado State University Library
Chapin, Richard E.	Michigan State University Library
Clark, Alice	University of New Mexico Library
Colaianni, Lois	National Library of Medicine
Dagnese, Joseph M.	Purdue University Library
De Gennaro, Richard	University of Pennsylvania Libraries
Dillon, Howard	University of Chicago Library
Dougherty, Richard M.	University of Michigan Library
Downes, Robin	University of Houston Libraries
Fasana, Paul	New York Public Library
Flecker, Dale	Harvard University Library
Gapen, D. Kaye	University of Wisconsin Libraries
Getz, Malcolm	Vanderbilt University Library
Gherman, Paul	Virginia Polytechnic Inst. and State University
Govan, James F.	University of North Carolina Libraries
Gregor, Dorothy	University of California, San Diego
Haak, John R.	University of Hawaii Library
Hanson, Roger K.	University of Utah Libraries
Harrar, H. Joanne	University of Maryland Library

Hendrickson, Kent	University of Nebraska-Lincoln
Heseltine, Inez	Canada Inst. for Sci. & Tech. Infor.
Hill, Graham R.	McMaster University Library
Hoffmann, Ellen	York University Libraries
Hogan, Sharon	Louisiana State University Library
Howard, Clinton	University of Kansas Library
Hunt, Donald R.	University of Tennessee Libraries
Jeffs, Joseph E.	Georgetown University Library
Johnson, Herbert F.	Emory University Library
Jones, Douglas E.	University of Alabama Libraries
King, Evelyn	Texas A&M University Library
Koepp, Donald	Princeton University Library
Kuhn, Warren B.	Iowa State University Library
Laird, W.	David University of Arizona Library
Laucas, John	Boston University Library
Leinbach, Philip E.	Tulane University Library
Lee, Robert	University of Western Ontario
Littleton, I.T.	North Carolina State University Library
Lucker, Jay K.	Massachusetts Inst. of Technology Libraries
McCoy, Ralph E.	Rutgers University Library
McDonald, John P.	University of Connecticut Library
Maloy, Robert	Smithsonian Institution Libraries
Martin, Susan K.	Johns Hopkins University Library
Milac, Metod, M.	Syracuse University Libraries
Miller, Charles, E.	Florida State University Library
Miller, Robert C.	University of Notre Dame Libraries
Myers, James	Temple University Library
Osburn, Charles B.	University of Cincinnati Libraries
Otto, Margaret A.	Dartmouth College Libraries
Pastine, Maureen	Washington State University Library
Peterson, Kenneth G.	Southern Illinois University Library
Riggs, Donald	Arizona State University Library
Rodgers, Frank	University of Miami Library
Rosenthal, Joseph	University of California, Berkeley Library
Rouse, Roscoe	Oklahoma State University Library
Scott, Marianne	National Library of Canada
Shank, Russell	University of California, Los Angeles Library
Sharrow, Marilyn	University of California Library, Davis
Shaughnessy, Thomas W.	University of Missouri Library
Shepherd, Murray	University of Waterloo Library
Shipman, George W.	University of Oregon Library
Sloan, Elaine F.	Indiana University Libraries

Smith, Eldred	University of Minnesota Libraries
Spyers-Duran, Peter	Wayne State University Libraries
Striedieck, Suzanne	Pennsylvania State University Library
Stubbs, Kendon	University of Virginia Library
Studer, William J.	Ohio State University Libraries
Talbot, Richard J.	University of Massachusetts Libraries
Tanno, John	University of California Riverside, Library
Taylor, Merrily	Brown University Library
Tolliver, Don	Kent State University Libraries
Toombs, Kenneth E.	University of South Carolina Libraries
Von Wahlde, Barbara	State University of New York at Buffalo Libraries
Walls, Esther, J.	State University of New York at Stony Brook Library
Weber, David C.	Stanford University Libraries
Woodsworth, Anne	University of Pittsburgh Libraries
Wyatt, James F.	University of Rochester Libraries
Yavarkovsky, Jerome	New York State Library

ARL Staff

Shirley Echelman	Executive Director
Duane E. Webster	Deputy Executive Director and Director, Office of Management Studies
Jaia Barrett	Program Officer
Nicola Daval	Information Officer
Jeffrey J. Gardner	Associate Director, Office of Management Studies
Jeffrey Heynen	Program Officer
Susan Jurow	Training Specialist, Office of Management Studies
Alex Lichtenstein	Administrative Assistant
Jutta Reed-Scott	Collections Development Specialist, Office of Management Studies, and ARL Recon Project Coordinator
Maxine K. Sitts	Information Services Specialist, Office of Management Studies

Guests

Brown, Rowland	OCLC, Inc.
Buckland, Michael	University of California
Cummings, Martin B.	Council on Library Resources - Speaker
Fretwell, Gordon	University of Massachusetts - Speaker
Haas, Warren	Council on Library Resources
Hashim, Elinor	National Commission on Libraries and Information Science
Hubbard, William N.	Consultant - Speaker
Jones, C. Lee	Council on Library Resources
Kantor, Paul	Tantalus, Inc. - Speaker
Lynch, Mary Jo	American Library Association
Marcum, Deanna	Council on Library Resources
Mathews, Anne J.	U.S. Department of Education
McCoy, Richard W.	Research Libraries Group
Molyneux, Robert	Consultant
Morton, Herbert	American Council of Learned Societies Office of Scholarly Communication
Peters, Paul	Columbia University - Speaker
Sparks, Peter	Library of Congress
Starr, Mary Jane	National Library of Canada

APPENDIX H

ASSOCIATION OF RESEARCH LIBRARIES OFFICERS, BOARD OF DIRECTORS, COMMITTEES AND TASK FORCES

MAY 1986

ARL OFFICERS AND BOARD FOR 1985-86

Anne Woodsworth, President
Herbert F. Johnson, Vice President & President-Elect
Richard J. Talbot, Past-President
Richard E. Chapin (Oct. 1987)
Graham R. Hill (Oct. 1986)
W. David Laird (Oct. 1986)
Charles E. Miller (Oct. 1988)
Margaret Otto (Oct. 1987)
Joseph Rosenthal (Oct. 1987)
Martin D. Runkle (Oct. 1988)
Elaine F. Sloan (Oct. 1988)

STANDING COMMITTEES AND TASK FORCE

Committee on Government Policies

Hugh C. Atkinson (1986)
Susan Brynteson (1988)
Merrily Taylor (1987)
Paul Vassallo (1987)
James F. Wyatt, Chair (1988)

Staff: Jaia Barrett

Committee on Nominations

Millicent D. Abell (1986)
Graham R. Hill (1986)
Herbert F. Johnson, ARL Vice President, Chair (1986)

Committee on the Management of Research Library Resources

Ellen Hoffmann (1987)
Herbert F. Johnson (ex officio as Chair of Committee on ARL Statistics)
Sul H. Lee (1986)
Philip E. Leinbach (1988)
Jay K. Lucker (1987)
Susan K. Martin (1986)
Carlton C. Rochell (1988)
Joan Chambers, Chair (1986)

Staff: Duane Webster

Committee on ARL Statistics

Richard M. Dougherty (1987)
Gordon Fretwell, University of Massachusetts (Consultant)
Robert Lee (1988)
Thomas W. Shaughnessy (1988)
Kendon Stubbs, University of Virginia (Consultant)
Don Tolliver (1988)
Herbert F. Johnson, Chair (1987)

Staff: Nicola Daval

Coordinating Committee on Collections and Access

Dale Bentz (1985)
Susan Brynteson (1985)
Robert Miller (ex officio as Chair of the Committee on Collection Development)
David Weber (ex officio as Chair of the Committee on Preservation of Research Library Materials)
Joseph Rosenthal (ex officio as Chair of the Committee on Bibliographic Control)
Elaine Sloan, Chair (1986)

Staff: Jaia Barrett

Committee on Bibliographic Control

Sterling J. Albrecht (1988)
Henriette Avram, Library of Congress Liaison
David Bishop (1988)
Robin Downes (1987)
Sharon Hogan (1987)
C. Lee Jones, Council on Library Resources (observer)
Marianne Scott (1988)
Joseph Rosenthal, Chair (1987)

Staff: Jeffrey Heynen
Jutta Reed-Scott

Committee on Collection Development

Millicent D. Abell (1988)
Joseph Boissé (1986)
Susan Coté (1988)
John Finzi, Library of Congress Liaison
Peter Freeman (1988)
Charles Miller (1986)
Mary Jane Starr, National Library of Canada Liaison
Robert Miller, Chair (1986)

Staff: Jeffrey Gardner

Committee on Preservation of Research Library Materials

Harold W. Billings (1988)
John Laucus (1986)
Robert Maloy (1988)
Deanna Marcum, Council on Library Resources (observer)
Kenneth G. Peterson (1987)
John B. Smith (1988)
Peter Sparks, Library of Congress Liaison
William J. Studer (1987)
David C. Weber, Chair (1986)

Staff: Jeffrey Heynen

President's Task Force on Membership Criteria

Millicent D. Abell
James F. Govan
Herbert F. Johnson
Jay K. Lucker
Eldred Smith
Richard J. Talbot
Anne Woodsworth

Staff: Shirley Echelman
Nicola Daval

Task Force on Scholarly Communication (1987)

Hugh C. Atkinson
Stuart Forth
D. Kaye Gapen
Martin Runkle
George Shipman
William Studer
Thomas Shaughnessy
Charles Osburn, Chair

Staff: Nicola Daval

ADVISORY COMMITTEES

Center for Chinese Research Materials

Samuel Chu, Ohio State University
Thomas Kennedy, Washington, State University
Thomas Kuo, University of Pittsburgh
Douglas McInnes (1985)
Eugene Wu, Harvard University, Chair

Staff: Pingfeng Chi

ARL Microform Project Cataloging Program

Linda Hamilton, Research Publications, Inc.
Roger Hanson, RLAC
Mary Ellen Jacob, OCLC, Inc.
Martin Joachim, ALA/RLMS
Patricia McClung, RLG alternate
Anita Werling, University Microfilms, Inc.
Research Libraries Group *
Library of Congress *

Staff: Jeffrey Heynen

* Representative to be appointed

CONSER A & I Coverage Project

Linda Bartley, Library of Congress
Brett Butler, In-Four
Thomas Delsey, National Library of Canada
Mary Ellen Jacob, OCLC, Inc.
Jay K. Lucker
Robert S. Tannehill, Jr., Chemical Abstracts Service

Staff: Julia Blixrud

National Collections Inventory Project

David Farrell, Indiana University
Leslie Hume, Research Libraries Group
Paul Mosher, Stanford University
Susan Nutter, Massachusetts Institute of Technology
Elaine F. Sloan
David H. Stam

Staff: Jeffrey Gardner

REPRESENTATIVES

ALA Statistics Coordinating Committee ..... Nicola Daval
National Information Standards Organization (NISO) ..... Joanne Harrar
NISO Standards Voting Representative ..... Shirley Echelman
CONSER Advisory Group ..... Jeffrey Heynen
Eighteenth-Century Short Title Catalogue ..... Ray Frantz
LC Cataloging-in-Publication Advisory Group ..... George Gibbs, UCLA
LC Network Advisory Committee ..... William Studer
Society of American Archivists ..... Herbert Finch, Cornell
Universal Serials & Book Exchange ..... Joanne Harrar
National Institute of Conservators ..... David Stam
IFLA Voting Representative ..... Shirley Echelman
RLG Conspectus Development Task Force ..... David Farrell, Indiana

APPENDIX I

MEMBERSHIP LIST

MAY 1986

University of **Alabama** Libraries
P.O. Box S
University, Alabama 35486
Douglas E. Jones, Interim Dean of Univ. Libs.
(205) 348-7561

University of **Alberta** Library
Edmonton, Alberta, Canada T6G 2J8
Peter Freeman, Librarian
(403) 432-3790

University of **Arizona** Library
Tucson, Arizona 85721
W. David Laird, Librarian
(602) 621-2101

Arizona State University Library
Tempe, Arizona 85281
Donald Riggs, Librarian
(602) 965-3417

Boston Public Library
Copley Square
Boston, Massachusetts 02117
Arthur Curley, Librarian
(617) 536-5400

Boston University Library
Boston, Massachusetts 02215
John Laucus, Director
(617) 353-3710

Brigham Young University Library
324 Lee Library
Provo, Utah 84602
Sterling J. Albrecht, Univ. Libn.
(801) 378-2905

University of **British Columbia** Library
Vancouver, B.C., Canada V6T 1W5
Douglas McInnes, Librarian
(604) 228-2298

Brown University Library
Providence, Rhode Island 02912
Merrily Taylor, Librarian
(401) 863-2162

University of **California** Library, **Berkeley**
Berkeley, California 94720
Joseph Rosenthal, Univ. Librarian
(415) 642-3773

University of **California** Library, **Davis**
Davis, California 95616
Marilyn Sharrow, Univ. Librarian
(916) 752-2110

University of **California** Library, **Irvine**
The University Library
P.O. Box 19557
Irvine, California 92713
Calvin J. Boyer, University Librarian
(714) 856-5212

University of **California** Library, **Los Angeles**
Los Angeles, California 90024
Russell Shank, Librarian
(213) 825-1201

University of **California** Library, **Riverside**
P.O. Box 5900
Riverside, California 92517
John Tanno, Acting Univ. Librarian
(714) 787-3221

University of **California** Library, **San Diego**
The University Library
La Jolla, California 92037
Dorothy Gregor, Univ. Librarian
(619) 452-3061

University of **California** Library, **Santa Barbara**
The University Library
Santa Barbara, California 93106
Joseph A. Boissé, Librarian
(805) 961-3256

Canada Institute for Scientific & Technical Information
National Research Council of Canada
Ottawa, Canada K1A OS2
Elmer V. Smith, Director
(613) 993-2341

Case Western Reserve University Libraries
Cleveland, Ohio 44106
Susan Coté, Director
(216) 368-2990

Center for Research Libraries
6050 South Kenwood Avenue
Chicago, Illinois 60637
Donald B. Simpson, Director
(312) 955-4545

University of **Chicago** Library
Chicago, Illinois 60637
Martin D. Runkle, Director
(312) 962-8744

University of **Cincinnati** Libraries
Cincinnati, Ohio 45221
Charles B. Osburn, Vice Provost for Univ. Libraries
(513) 475-2218

University of **Colorado** Library
Boulder, Colorado 80309
Clyde Walton, Director
(303) 492-7511

Colorado State University Library
Fort Collins, Colorado 80521
Joan Chambers, Director
(303) 491-5911

Columbia University Libraries
New York, New York 10027
Patricia Battin, Vice President & University Librarian
(212) 280-2247

University of **Connecticut** Library
Storrs, Connecticut 06268
John P. McDonald, Director
(203) 486-2219

Cornell University Libraries
Ithaca, New York 14850
J. Gormly Miller, Act. Univ. Libn.
(607) 255-3689

Dartmouth College Libraries
Hanover, New Hampshire 03755
Margaret A. Otto, Librarian
(603) 646-2235

University of **Delaware** Library
Newark, Delaware 19717-5267
Susan Brynteson, Director
(302) 451-2231

Duke University Libraries
220 Perkins Library
Durham, North Carolina 27706
Jerry Campbell, Univ. Libn.
(919) 684-2034

Emory University Library
Atlanta, Georgia 30322
Herbert F. Johnson, Director
(404) 727-6861

University of **Florida** Libraries
Gainesville, Florida 32603
Dale Canelas, Director
(904) 392-0342

Florida State University Library
Tallahassee, Florida 32306
Charles E. Miller, Director
(904) 644-5211

Georgetown University Library
Washington, D.C. 20007
Joseph E. Jeffs, Director
(202) 625-4095

University of **Georgia** Libraries
Athens, Georgia 30601
David Bishop, Director
(404) 542-2716

Georgia Institute of Technology
Price Gilbert Memorial Library
Atlanta, Georgia 30332
Miriam Drake, Director
(404) 894-4510

University of **Guelph** Library
Guelph, Ontario, Canada N1G 2W1
John Black, Chief Librarian
(519) 824-4120

Harvard University Library
Wadsworth House
Cambridge, Massachusetts 02138
Sidney Verba, Director
(617) 495-3650

University of **Hawaii** Library
2550 The Mall
Honolulu, Hawaii 96822
John R. Haak, Director
(808) 948-7205

University of **Houston** Libraries
Houston, Texas 77004
Robin Downes, Director
(713) 749-4241

Howard University Libraries
500 Harvard Place, N.W.
Box 1059
Washington, D.C. 20059
Kenneth Wilson, Acting Director
(202) 636-7234

University of **Illinois** Library
1408 West Gregory Drive
Urbana, Illinois 61801
Hugh C. Atkinson, Univ. Librarian
(217) 333-0790

Indiana University Libraries
Bloomington, Indiana 47401
Elaine F. Sloan, Dean of Univ. Librs.
(812) 335-3404

University of **Iowa** Libraries
Iowa City, Iowa 52242
Dale M. Bentz, Univ. Librarian
(319) 353-4450

Iowa State University Library
Ames, Iowa 50011
Warren B. Kuhn, Dean of Lib. Services
(515) 294-1442

Johns Hopkins University Library
The Milton S. Eisenhower Library
Baltimore, Maryland 21218
Susan K. Martin, Librarian
(301) 338-8325

University of **Kansas** Library
Lawrence, Kansas 66044
James Ranz, Dean of Libraries
(913) 864-3601

University of **Kentucky** Libraries
Lexington, Kentucky 40506
Paul A. Willis, Director
(606) 257-3801

Kent State University Libraries
Kent, Ohio 44242
Don Tolliver, Director
(216) 672-2962

Laval University Library
Cit Universitaire
Qubec, Canada G1K 7P4
Cline R. Cartier, Director
(418) 656-2008

Library of Congress
Washington, D.C. 20540
Daniel J. Boorstin, Librarian
(202) 287-5205

Linda Hall Library
Kansas City, Missouri 64110
Louis E. Martin, Director
(816) 363-4600

Louisiana State University Library
Baton Rouge, Louisiana 70803
Sharon Hogan, Director
(504) 388-2217

McGill University Library
3459 McTavish Street
Montreal, Canada H3A 1Y1
Hans Möller, Director
(514) 392-4949

McMaster University Library
1280 Main Street West
Hamilton, Ontario, Canada L85 4L6
Graham R. Hill, University Librarian
(416) 525-9140 Local 4359

The University of **Manitoba** Libraries
Winnipeg, Manitoba R3T 2N2
Canada
Earl Ferguson, Director
(204) 474-9881

University of **Maryland** Library
College Park, Maryland 20742
H. Joanne Harrar, Librarian
(301) 454-3011

University of **Massachusetts** Libraries
Amherst, Massachusetts 01003
Richard J. Talbot, Director
(413) 545-0284

Massachusetts Inst. of Technology Libraries
Cambridge, Massachusetts 02139
Jay K. Lucker, Director
(617) 253-5651

University of **Miami** Library
P.O. Box 248214
Coral Gables, Florida 33124
Frank Rodgers, Director
(305) 284-3551

University of **Michigan** Library
Ann Arbor, Michigan 48109
Richard M. Dougherty, Director
(313) 764-9356

Michigan State University Library
East Lansing, Michigan 48823
Richard E. Chapin, Director
(517) 355-2341

University of **Minnesota** Libraries
Minneapolis, Minnesota 55455
Eldred Smith, Univ. Librarian
(612) 373-3097

University of **Missouri** Library
Columbia, Missouri 65201
Thomas W. Shaughnessy, Director
(314) 882-4701

National Agricultural Library
Beltsville, Maryland 20705
Joseph H. Howard, Director
(301) 344-4248

National Library of Canada
395 Wellington Street
Ottawa, Ont., Canada K1A 0N4
Marianne Scott, National Librarian
(613) 996-1623

National Library of Medicine
Bethesda, Maryland 20894
Donald A. Lindberg, Director
(301) 496-6221

University of **Nebraska**-Lincoln
The University Libraries
Lincoln, Nebraska 68588-0410
Kent Hendrickson, Dean of Librs.
(402) 472-2526

The Newberry Library
60 West Walton Street
Chicago, Illinois 60610
Joel L. Samuels, Dir. of Lib. Sers.
(312) 943-9090

The University of **New Mexico**
General Library
Albuquerque, New Mexico 87131
Paul Vassallo, Dean of Lib. Sers.
(505) 277-4241
(212) 930-0708

New York Public Library
Fifth Avenue at 42nd Street
New York, New York 10018
Paul Fasana, Acting Director of
the Research Libraries
(212) 930-0708

New York State Library
Cultural Education Center
Empire State Plaza
Albany, New York 12234
Jerome Yavarkovsky, Director
(518) 474-5930

New York University Libraries
New York, New York 10003
Carlton C. Rochell, Dean of Libraries
(212) 598-7676

University of **North Carolina** Libraries
Chapel Hill, North Carolina 27515
James F. Govan, University Librarian
(919) 962-1301

North Carolina State University
D.H. Hill Library
Box 5007
Raleigh, North Carolina 27650
I.T. Littleton, Director
(919) 737-2843

Northwestern University Libraries
Evanston, Illinois 60201
John P. McGowan, Librarian
(312) 491-7640

University of **Notre Dame** Libraries
Notre Dame, Indiana 46556
Robert C. Miller, Director
(219) 239-5252

Ohio State University Libraries
Columbus, Ohio 43210
William J. Studer, Director
(614) 422-4241

University of **Oklahoma** Library
Norman, Oklahoma 73069
Sul H. Lee, Dean, University Librs.
(405) 325-2611 or 2614

Oklahoma State University Library
Stillwater, Oklahoma 74078
Roscoe Rouse, Dean of Lib. Ser.
(405) 624-6321

University of **Oregon** Library
Eugene, Oregon 97403-1299
George W. Shipman, Univ. Libn.
(503) 686-3056

University of **Pennsylvania** Libraries
Philadelphia, Pennsylvania 19104
Richard De Gennaro, Director
(215) 898-7091

Pennsylvania State University Library
University Park, Pennsylvania 16802
Stuart Forth, Dean of Univ. Libraries
(814) 865-0401

University of **Pittsburgh** Libraries
271 Hillman Library
Pittsburgh, Pennsylvania 15260
Anne Woodsworth, Assoc. Provost
for Libraries
(412) 624-0907

Princeton University Library
Princeton, New Jersey 08540
Donald Koepp, University Librarian
(609) 452-3170

Purdue University Library
Lafayette, Indiana 47907
Joseph M. Dagnese, Director
(317) 494-2900

Queen's University Library
Douglas Library
Kingston, Canada K7L 5C4
Margot B. McBurney, Chief Libn.
(613) 547-5950

Rice University Library
6100 S. Main, Box 1892
Houston, Texas 77251-1892
Samuel Carrington, Director
(713) 527-4022

University of **Rochester** Libraries
Rochester, New York 14627
James F. Wyatt, Director
(716) 275-4463

Rutgers University Library
New Brunswick, New Jersey 08901
Ralph E. McCoy, Interim
Director of Libraries
(201) 932-7505

University of **Saskatchewan** Library
Saskatoon, Canada S7N OWO
Frank Winter, Acting Univ. Libn.
and Director of Libraries
(306) 966-5927

Smithsonian Institution Libraries
Constitution Avenue at 10th St., N.W.
Washington, D.C. 20560
Robert Maloy, Director
(202) 357-2240

University of **South Carolina** Libraries
Columbia, South Carolina 29208
Kenneth E. Toombs, Director of Libs.
(803) 777-3142

University of **Southern California** Library
Los Angeles, California 90007
Charles R. Ritcheson, Librarian
(213) 743-2543

Southern Illinois University Library
Carbondale, Illinois 62901
Kenneth G. Peterson, Dean of
Library Affairs
(618) 453-2522

Stanford University Libraries
Green Library
Stanford, California 94305
David C. Weber, Director
(415) 723-2015

State University of New York at Albany
Libraries
1400 Washington Avenue
Albany, New York 12222
Joseph Z. Nitecki, Director
(518) 442-3568

State University of New York at Buffalo
Libraries
432 Capen Hall
Buffalo, New York 14260
Barbara von Wahlde, Director
(716) 636-2967

State University of New York at Stony Brook
Library
Stony Brook, New York 11794
John B. Smith, Director & Dean of Lib.
(516) 246-5650

Syracuse University Libraries
Syracuse, New York 13210
David H. Stam, University Librarian
(315) 423-2574

Temple University Library
Paley Library
Philadelphia, Pennsylvania 19122
James Myers, Director
(215) 787-8231

University of **Tennessee** Libraries
Knoxville, Tennessee 37996-1000
Donald R. Hunt, Director
(615) 974-4127

University of **Texas** Libraries
Austin, Texas 78713-7330
Harold W. Billings, Director
(512) 471-3811

Texas A&M University Library
Sterling C. Evans Library
College Station, Texas 77843
Irene B. Hoadley, Director
(409) 845-8111

University of **Toronto** Libraries
Toronto, Ont., Canada M5S 1A5
Maureen Hutchinson, Acting Chief
Librarian
(416) 978-2292

Tulane University Library
New Orleans, Louisiana 70118
Philip E. Leinbach, Librarian
(504) 865-5131

University of **Utah** Libraries
Salt Lake City, Utah 84112
Roger K. Hanson, Director
(801) 581-8558

Vanderbilt University Library
419 21st Avenue South
Nashville, Tennessee 37203
Malcolm Getz, Assoc. Provost
for Infor. Services
(615) 322-7100

Virginia Polytechnic Inst. and State Univ.
Blacksburg, Virginia 24061
Paul Gherman, Director of Librs.
(703) 961-5593

University of **Virginia** Library
Alderman Library
Charlottesville, Virginia 22901
Ray Frantz, Jr., Librarian
(804) 924-3026 or 7849

University of **Washington** Library
Seattle, Washington 98194-5610
Merle N. Boylan, Director
(206) 543-1760

Washington State University Library
Pullman, Washington 99163
Maureen Pastine, Director
of Libraries
(509) 335-4557

Washington University Libraries
St. Louis, Missouri 63130
Charles Churchwell, Librarian
(314) 889-5400

University of **Waterloo** Library
Waterloo, Ontario, Canada N2L 3G1
Murray C. Shepherd, Univ. Libn.
(519) 885-1211)

Wayne State University Libraries
Detroit, Michigan 48202
Peter Spyers-Duran, Director
(313) 577-4020

University of **Western Ontario**
DB Weldon Library
London, Ontario, Canada
Robert Lee, Director of Libs.
(519) 679-3165

University of **Wisconsin** Libraries
Madison, Wisconsin 53706
D. Kaye Gapen, Director
(608) 262-3521

Yale University Libraries
New Haven, Connecticut 06520
Millicent D. Abell, Librarian
(203) 436-2456

York University Libraries
4700 Keele Street
Downsview, Ontario, Canada M3J 1P3
Ellen Hoffmann, Director
(416) 667-2235

APPENDIX J

ASSOCIATION OF RESEARCH LIBRARIES

REPORT ON FINANCIAL STATEMENTS

(with supplementary information)
(Modified Cash Basis)

YEARS ENDED DECEMBER 31, 1985 AND 1984

ASSOCIATION OF RESEARCH LIBRARIES

YEARS ENDED DECEMBER 31, 1985 AND 1984

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A PROFESSIONAL CORPORATION
CERTIFIED PUBLIC ACCOUNTANTS

Board of Directors
Association of Research Libraries
Washington, D.C.

We have examined the statement of assets and liabilities arising from cash transactions of Association of Research Libraries as of December 31, 1985, and the related statement of revenue collected and expenses paid for the year then ended. Our examination was made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

As described in Note 1, the Association of Research Libraries' policy is to prepare its financial statements on the basis of cash receipts and disbursements; consequently, certain revenue and the related assets are recognized when received rather than when earned, and certain expenses are recognized when paid rather than when the obligation is incurred. Accordingly, the accompanying financial statements are not intended to present financial position and results of operations in conformity with generally accepted accounting principles.

In our opinion, the financial statements referred to above present fairly the assets and liabilities arising from the cash transactions of Association of Research Libraries as of December 31, 1985, and the revenue collected and expenses paid during the year then ended, on the basis of accounting described in Note 1, which has been applied in a manner consistent with that of the preceding year.

Canto, Metro, Meyer & Co.
CANTO, METRO, MEYER & COMPANY
A Professional Corporation
Certified Public Accountants

March 5, 1986

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ASSOCIATION OF RESEARCH LIBRARIES
STATEMENT OF ASSETS, LIABILITIES AND FUND BALANCE
(MODIFIED CASH BASIS)

A S S E T S

	GENERAL OPERATING FUND	OFFICE OF MANAGEMENT STUDIES	CHINESE CENTER REVOLVING FUND	YEAR ENDED DECEMBER 31, 1985	1984
Cash (Note 2)	$ (40,715)	$ -0-	$ -0-	$ (40,715)	$ 22,828
Investments, short-term at cost (Market value $ 618,694 (Note 3)	251,128	242,834	118,084	612,046	512,354
Accounts receivable	27,121	111	1,500	28,732	17,516
Prepaid expenses	--	--	--	--	5,586
Deposits	2,144	--	--	2,144	1,988
Furniture & equipment	67,827	41,396	30,061	139,284	127,345
Less: accumulated depreciation	(37,839)	(21,832)	(22,311)	(81,982)	(64,243)
Total	$ 269,666	$ 262,509	$ 127,334	$ 659,509	$ 623,054

LIABILITIES AND FUND BALANCES

Unapplied grant income (Schedule)	$ 23,940	$ 216,998	$ -0-	$ 240,938	$ 100,923
Obligation under capital lease (Note 4)	2,886	3,298	2,062	8,246	11,272
Grant payable (Note 5)	--	--	--	--	15,625
Accounts payable	9,594	--	--	9,594	--
Dues collected in advance	--	--	--	--	5,010
Payroll taxes withheld	3,229	--	--	3,229	3,042
Total liabilities	39,649	220,296	2,062	262,007	135,872
Fund balances	230,017	42,213	125,272	397,502	487,182
Total	$ 269,666	$ 262,509	$ 127,334	$ 659,509	$ 623,054

The accompanying letter and notes are an integral part of these financial statements.

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ASSOCIATION OF RESEARCH LIBRARIES
GENERAL OPERATING FUND
STATEMENTS OF REVENUE COLLECTED AND EXPENSES PAID AND CHANGES IN FUND BALANCE
(MODIFIED CASH BASIS)

	YEAR ENDED DECEMBER 31,	
	1985	1984
REVENUE		
Dues	$ 620,680	$ 588,175
Interest	64,317	33,913
Publications	19,746	14,817
Miscellaneous	2,097	4,133
Cost recovery	1,545	-0-
	708,385	641,038
EXPENSES	687,888	565,079
Less: administrative expenses charged to special programs	(12,703)	(27,785)
Net expenses	675,815	537,294
Excess of revenue collected over expenses paid	33,200	103,744
Fund balance, beginning of year	220,525	125,261
Adjustments to fund balance		
Deficiency in special programs - current year	(16,541)	(11,330)
- prior year	(7,167)	-0-
Capitalization of equipment	-0-	2,850
Fund balance, end of year	$ 230,017	$ 220,525

The accompanying letter and notes are an integral part of these financial statements.

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ASSOCIATION OF RESEARCH LIBRARIES
OFFICE OF MANAGEMENT STUDIES
STATEMENT OF REVENUES COLLECTED AND EXPENSES PAID AND CHANGES IN FUND BALANCE
(MODIFIED CASH BASIS)

	YEAR ENDED DECEMBER 31,	
	1985	1984
REVENUE		
Cost recovery	$ 26,670	$ 25,557
Sales of publications	114,698	87,638
ARL support - transferred from general operating fund	115,500	110,000
Management Institutes/Training	135,081	51,724
Consultation	30,190	17,150
Interest Income	9,000	11,009
Miscellaneous	--	1,221
Total revenue	431,139	304,299
EXPENSES	421,321	307,997
Excess (deficiency) of revenues collected over expenses paid	9,818	(3,698)
Deficiency of revenues collected over expense paid - special programs	(7,162)	(6,002)
Fund balance, beginning of year	41,139	50,839
Adjustments	(1,582)	-0-
Fund balance, end of year	$ 42,213	$ 41,139

The accompanying letter and notes are an integral part of these financial statements.

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ASSOCIATION OF RESEARCH LIBRARIES
CHINESE CENTER REVOLVING FUND
STATEMENTS OF REVENUES COLLECTED AND EXPENSES PAID AND CHANGES IN FUND BALANCE
(MODIFIED CASH BASIS)

	YEAR ENDED DECEMBER 31,	
	1985	1984
REVENUE		
Grants	$ -0-	$ 50,000
Interest income	22,065	23,633
Sales of publications	102,104	49,358
	124,169	122,991
EXPENSES	224,415	216,312
Excess (deficiency) of revenues collected over expenses paid	(100,246)	(93,321)
Fund balance, beginning of year	225,518	318,839
Fund balance, end of year	$ 125,272	$ 225,518

The accompanying letter and notes are an integral part of these financial statements.

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ASSOCIATION OF RESEARCH LIBRARIES
STATEMENT OF CHANGES IN CASH
(MODIFIED CASH BASIS)

	YEAR ENDED DECEMBER 31, 1985	1984
SOURCES OF CASH		
Excess (deficiency) of revenue collected over expenses paid		
General Operating Fund	$ 33,200	$ 103,744
Office of Management Studies	9,818	(3,698)
Chinese Center Revolving Fund	(100,246)	(93,321)
Special Programs - ARL	(23,708)	(11,330)
- OMS	(8,744)	(6,002)
Total	$ (89,680)	$ (10,607)
Add item not requiring the outlay of cash - Depreciation	17,439	11,860
Cash provided by operations	(72,241)	1,253
Dues collected in advance	(5,010)	5,010
Grant payable	(15,625)	15,625
Decrease in deposits	(157)	490
Increase in payroll taxes withheld	187	3,042
Increase in accounts payable	9,594	--
Total	(83,252)	25,420
USES OF CASH		
Prepaid expenses	(5,586)	5,586
Funding of accounts receivable	11,216	17,516
Reduction in lease obligation	3,026	2,135
Reduction in unapplied grant income	(140,016)	152,073
Purchase of equipment	11,939	12,675
Total	(119,421)	189,985
Increase (decrease) in cash	36,169	(164,565)
Cash, beginning of year	535,162	699,727
Cash, end of year	$ 571,331	$ 535,162

The accompanying letter and notes are an integral part of these financial statements.

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ASSOCIATION OF RESEARCH LIBRARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 1 - Summary of Significant Accounting Policies

Organization

The Association of Research Libraries is a non-profit education organization comprised of 118 of the major research libraries in the United States and Canada. The purpose of the Association is to initiate and develop plans for strengthening research library resources and services in support of higher education and research. As part of its activities, the Association also operates the Center for Chinese Research Materials and the Office of Management Studies.

The Center for Chinese Research Materials was established by the Association in 1968. The Center serves primarily as a reprint publishing house which reproduces periodicals, documents, and research tool focusing on twentieth-century China.

The Office of Management Studies was established by the Association in 1970. The Office conducts research into organizational problems of research libraries, develops new management techniques, and offers information services and training.

Basis of accounting

The Association's policy is to prepare its financial statements on a modified cash basis. This includes recording depreciation and amortization on capitalized assets, accruing liabilities related to special programs and payroll withholding taxes. Under this basis, revenues are recognized when collected rather than when earned and expenditures are generally recognized when paid rather than when incurred.

Furniture, equipment and depreciation

Furniture and equipment are recorded at cost. Depreciation of furniture and equipment is provided on the straight-line method over the estimated useful lives of the assets.

Income taxes

The Association is exempted from income taxes under Internal Revenue Code Section 501 (C)(3) and applicable District of Columbia law.

Retirement plan

The Association has a retirement plan that covers substantially all full-time employees. Contributions to the plan are based on a percentage of salary for enrolled staff members. Total amounts paid in by the Association were $86,644 and $72,939 for 1985 and 1984, respectively.

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ASSOCIATION OF RESEARCH LIBRARIES
NOTES TO THE FINANCIAL STATEMENTS
(CONTINUED)

Note 2 - Cash

The Board of Directors has authorized restriction of $ 15,000 of the Association's funds and designated this amount as a program reserve fund. From this fund, a contribution of $ 1,000 was made to the Association of American Publishers - Electronic Publishing Project.

Note 3 - Investments

The Association's investments are managed by Dean Witter Reynolds, Washington, D.C. The investments are held as follows:

Cash	$ 3	
Dean Witter/Sears Liquid Asset Fund, Inc.	2,439	- Current yield 7.58%
Dean Witter U.S. Government Securities Trust	610,740	- Current yield 11.13%
Unit Sears Government Investors Trust # 4	5,512	- Current yield 10.61%
Market Value	$ 618,694	

All accounts may be liquidated on any business day with proceeds payable within two to five business days.

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ASSOCIATION OF RESEARCH LIBRARIES
NOTES TO THE FINANCIAL STATEMENTS
(CONTINTUED)

Note 4 - Leases

The Association leases its office space under an operating lease that expired on December 31, 1985, and leases telephone equipment under a capital lease that expires on February 15, 1988.

Furniture and equipment includes leased property under a capital lease at December 31, 1985 as follows:

Cost	$ 16,455
Less: Accumulated Amortization	4,386
	$ 12,069

The future minimum lease payments as of December 31, 1985 are as follows:

	Capital Lease
1986	$ 4,358
1987	4,358
1988	614
Total minimum lease payments	$ 9,330
Less: amount representing interest	868
Present value of net minimum lease payments	$ 8,462

Total rent and storage charges for the operating lease were $75,536 for 1985 and $64,184 for 1984.

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ASSOCIATION OF RESEARCH LIBRARIES
NOTES TO THE FINANCIAL STATEMENTS
(CONTINUED)

NOTE 5 - Grant payable - 1984

A grant in the amount of $20,833 has been made to the University of Virginia for the statistical analysis project. The Council of Library Resources provided one-half of the cost of this program.

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SUPPLEMENTARY INFORMATION

Our examinations of the financial statements included in the preceding section of this report were directed to an expression of our opinion on those financial statements taken as a whole. The supplementary information included on pages 13 through 20 is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information has been subjected to the auditing procedures applied in the examination of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

CANTO, METRO, MEYER & COMPANY
A Professional Corporation
Certified Public Accountants

March 5, 1986

CANTO, METRO, MEYER & COMPANY • BUILDING 3, SUITE 100 • 5161 RIVER ROAD • BETHESDA, MARYLAND 20816 • (301) 656-3000

ASSOCIATION OF RESEARCH LIBRARIES
GENERAL OPERATING FUND
SCHEDULES OF EXPENSES
(MODIFIED CASH BASIS)

	YEAR ENDED DECEMBER 31,	
	1985	1984
STAFF EXPENSES		
Salaries	$ 267,453	$ 207,311
Employee benefits	60,435	54,243
Travel and entertainment	17,750	21,916
Total staff expenses	345,638	283,470
ADMINISTRATIVE EXPENSES		
Miscellaneous	2,389	2,889
Data processing	6,499	3,131
Communications	10,483	8,604
Depreciation	9,190	6,537
Corp. memberships	7,491	6,027
Insurance	7,873	300
Periodicals and subscriptions	3,065	3,305
Professional fees	29,437	22,354
Rent	31,368	22,538
Office expense & telephone	32,791	18,483
Printing & duplication	6,783	7,288
Total administrative expenses	147,369	101,456
PROGRAM AND SERVICES EXPENSES		
Funding for special programs - Office of Management Studies	115,500	110,000
Publications	13,459	17,718
Total program and services expenses	128,959	127,718
ARL MEETINGS AND TRAVEL EXPENSES		
ARL sponsored membership travel	2,376	1,303
Board meeting	6,407	3,359
Committees and task forces	18,196	16,444
Conferences	27,299	22,075
Executive committee meetings	4,854	2,018
Staff expenses	6,790	7,236
Total ARL meetings and travel expenses	65,922	52,435
Total	$ 687,888	$ 565,079

The accompanying letter and notes are an integral part of these financial statements.

ASSOCIATION OF RESEARCH LIBRARIES
GENERAL OPERATING FUND
SCHEDULE OF EXPENSES BY FUNCTION
FOR THE YEAR ENDED DECEMBER 31, 1985
(MODIFIED CASH BASIS)

Management and general (includes transfers of $115,500 to OMS)	$ 542,985
Board and Executive Committee	13,774
Information/publication	6,702
Member meetings	55,786
Scholarly communication	3,438
Access	2,383
NCIP - Access	1,647
Preservation Committee	15,662
Information policy	14,605
Staff development	1,015
Management improvement	712
Salary survey	3,582
Bibliographic Control Committee	9,459
Statistical Committee	8,109
Statistics	8,029
Total expenses	$ 687,888

The accompanying letter and notes are an integral part of these financial statements.

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ASSOCIATION OF RESEARCH LIBRARIES
OFFICE OF MANAGEMENT STUDIES
SCHEDULE OF EXPENSES
(MODIFIED CASH BASIS)

	YEAR ENDED DECEMBER 31,	
	1985	1984
Consulting, computer and subcontractors	$ 20,882	$ 7,247
Depreciation	4,931	3,272
Employee benefits	47,161	31,046
Miscellaneous	1,679	5,102
Office expense	15,183	10,552
Periodicals and subscriptions	3,583	2,662
Communications	16,691	11,846
Printing	48,184	44,523
Rent and storage	25,401	22,968
Salaries	154,735	109,145
Refunds	8,393	—
Telephone	8,790	4,188
Training (net)	18,287	12,202
Travel	47,421	43,244
Total	$ 421,321	$ 307,997

The accompanying letter and notes are an integral part of these financial statements.

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ASSOCIATION OF RESEARCH LIBRARIES
OFFICE OF MANAGEMENT STUDIES
SCHEDULE OF EXPENSES BY FUNCTION
FOR THE YEAR ENDED DECEMBER 31, 1985
(MODIFIED CASH BASIS)

Research and development	$ 13,990
Academic Library Program	52,236
SPEC	87,399
Training - MSI	144,193
Grants Management	123,503
Total	$ 421,321

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ASSOCIATION OF RESEARCH LIBRARIES
CHINESE CENTER REVOLVING FUND
SCHEDULES OF EXPENSES
(MODIFIED CASH BASIS)

	YEAR ENDED DECEMBER 31,	
	1985	1984
Allocated administrative charges	$ 12,703	$ 27,785
Consulting, computer and subcontractors	6,799	4,028
Depreciation	3,319	3,061
Employee benefits	29,984	26,256
Miscellaneous	930	126
Supplies	1,137	-0-
Refunds	956	-0-
Periodicals and subscriptions	102	72
Communications	4,989	5,098
Printing and duplication	43,556	38,413
Interest	240	-0-
Professional services	489	859
Rent and storage	17,568	18,261
Salaries	93,650	89,318
Telephone	1,043	895
Travel	6,950	2,140
Total	$ 224,415	$ 216,312

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ASSOCIATION OF RESEARCH LIBRARIES
SPECIAL PROGRAMS
SCHEDULE OF OPERATIONS
(WITH COMPARATIVE TOTALS FOR 1984)
(MODIFIED CASH BASIS)

	CONSER A&I	MICROFORM BIBLIOGRAPHIC	ANC-Z39	PRESERVATION MICROFILMING GUIDE	RECON PLANNING STUDY (CLR)	RECON. MEMBERSHIP ASSESSMENT	UNFUNDED RECON PROJECT	YEAR ENDED DECEMBER 31, 1985	1984
REVENUES									
Grants	$ 107,371	$ 4,973	$ 16,355	$ 11,459	$ 16,218	$ 14,798	$ -0-	$ 171,174	$ 207,539
Total revenues	107,371	4,973	16,355	11,459	16,218	14,798	-0-	171,174	207,539
EXPENSES									
Consulting, computer and subcontractors	15,906	2,081	--	9,362	1,410	432	--	29,191	121,048
Depreciation	--	--	--	--	44	--	--	44	2,885
Employee benefits	17,486	451	2,443	434	3,586	2,092	738	27,230	9,976
Miscellaneous	188	--	--	--	51	--	--	239	2,647
Office expense	--	32	--	240	137	85	100	594	1,836
Communications	656	16	--	--	74	107	22	875	1,490
Printing & duplication	38	5	--	--	840	384	--	1,267	312
Rent & storage	--	111	--	--	189	450	--	750	4,153
Salaries	75,370	2,100	13,912	2,672	16,375	9,339	3,184	122,952	71,572
Telephone	84	27	--	--	258	618	263	1,250	372
Travel	831	150	--	--	865	1,291	186	3,323	2,578
Total expenses	$ 110,559	$ 4,973	$ 16,355	$ 12,708	$ 23,829	$ 14,798	$ 4,493	$ 187,715	$ 218,869
Deficiency of revenues collected over expenses paid	$ (3,188)	$ -0-	$ -0-	$ (1,249)	$ (7,611)	$ -0-	$ (4,493)	$ (16,541)	$ (11,330)

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ASSOCIATION OF RESEARCH LIBRARIES
OFFICE OF MANAGEMENT STUDIES
SPECIAL PROGRAMS
SCHEDULE OF OPERATIONS
(WITH COMPARATIVE TOTALS FOR 1984)
(MODIFIED CASH BASIS)

	PUBLIC SERVICE PROJECT (G.E. GRANT)	NATIONAL COLLECTION INVENTORY I & II	INSTITUTE OF LIBRARY SCHOOL EDUCATORS	PRESER-VATION PLANNING (NEH GRANT)	AUTOMATION (CLR GRANT)	NATIONAL COLLECTION INVENTORY III	NORDIC SCHOOL	ALMA M. TRASK	YEAR ENDED DECEMBER 31, 1985	1984
REVENUES										
Grants	$ 21,500	$ 7,166	$ 7,166	$ 56,833	$ 2,804	$ 26,574	$ 6,700	$ —	$ 128,743	$ 227,485
Interest	—	—	—	—	—	13,633	—	—	13,633	—
Total Revenue	21,500	7,166	7,166	56,833	2,804	40,207	6,700	—	142,376	227,485
EXPENSES										
Consulting, computer and subcontractors	757	—	—	1,600	270	650	750	—	4,027	9,320
Employee benefits	2,496	657	1,248	7,488	657	4,861	1,116	—	18,523	23,290
Miscellaneous	—	—	—	1,000	45	—	—	—	1,045	—
Office expense	264	—	—	979	118	421	101	—	1,883	3,467
Periodicals & subscriptions	—	—	6	170	30	—	—	1,470	1,676	373
Communications	192	—	528	257	9	1,101	56	—	2,143	1,338
Printing & duplication	4,245	3,910	999	584	538	3,013	631	—	13,920	5,800
Rent & storage	—	—	—	—	—	450	—	—	450	1,300
Salaries	7,963	2,082	3,982	23,702	2,165	15,516	3,345	—	58,755	104,961
Stipend	500	—	—	7,000	—	—	—	—	7,500	19,400
Telephone	598	216	50	916	7	1,128	—	—	2,915	3,839
Travel	4,485	301	353	14,001	42	13,067	4,432	—	36,701	60,398
Total expenses	21,500	7,166	7,166	57,697	3,881	40,207	10,451	1,470	149,538	233,487
Excess (deficiency) of revenue collected over expenses paid	$ —	$ —	$ —	$ (864)	$(1,077)	$ —	$ (3,751)	$ (1,470)	$ (7,162)	$ (6,002)

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ASSOCIATION OF RESEARCH LIBRARIES
STATEMENT OF CHANGES IN UNAPPLIED GRANT INCOME
FOR THE YEAR ENDED DECEMBER 31, 1985

	MICROFORM (CLR MELLON)	MICROFORM (NEH)	CONSER A&I	RECON PLANNING STUDY (CLR)	PRESERVATION MICROFILMING GUIDE	PROGRAM RESERVE FUND	MICROFORM BIBLIOGRAPHIC (MELLON GRANT)	STATISTICAL ANALYSIS PROJECT	YEAR ENDED DECEMBER 31, 1985	1984
Unapplied balance, beginning of year	$ (294)	$	$ 34,923	$	$ 14,490	$ 14,000	$ 7,067	$ (7,812)	$ 62,374	$ 45,875
Adjustments:										
Board creation of Program Reserve Fund	—	—	—	—	—	—	—	—	—	15,000
ARL Support	—	—	—	—	—	—	—	—	—	(15,625)
Write-off to fund balance	294	(939)	—	—	—	—	—	7,812	7,167	—
Current year's receipts:	—	939	77,086	16,395	—	—	—	—	94,420	224,663
Applied:										
To revenues - grants	—	—	(107,371)	(16,218)	(11,459)	—	(4,973)	—	(140,021)	(207,539)
Unapplied balance, end of year	—	—	$ 4,638	$ 177	$ 3,031	$ 14,000	$ 2,094	—	$ 23,940	$ 62,374

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ASSOCIATION OF RESEARCH LIBRARIES
OFFICE OF MANAGEMENT STUDIES
STATEMENT OF CHANGES IN UNAPPLIED GRANT INCOME
FOR THE YEAR ENDED DECEMBER 31, 1985

	NATIONAL COLLECTION INVENTORY III	PUBLIC SERVICE PROJECT (G.E. GRANT)	NATIONAL COLLECTION INVENTORY I & II	INSTITUTE OF LIBRARY SCHOOL EDUCATORS	MEYER GRANT	INDEX (WILSON FOUNDATION)	PRESERVATION PLANNING (NEH GRANT)	ECONOMIC SEMINAR (CLR GRANT)	COLLECTION ASSESSMENT	YEAR ENDED DECEMBER 31, 1985	1984
Unapplied balance, beginning of year	--	$ 29,633	$ 5,519	--	(939)	$ 2,175	--	$ 2,804	$ (643)	$ 38,549	$ 207,121
Adjustments:											
CLR reimbursements	--	--	--	--	--	--	--	--	--	--	8,700
Write-off of fund balance	--	--	--	--	939	--	--	--	643	1,582	(16,387)
Current year's receipts:	220,000	--	1,935	20,000	--	--	56,975	--	--	298,910	66,600
Applied:											
To revenues - grant	(26,574)	(21,500)	(7,166)	(7,166)	--	--	(56,833)	(2,804)	--	(122,043)	(227,485)
Unapplied balance, end of year	$ 193,426	$ 8,133	$ 288	$ 12,834	-0-	$ 2,175	$ 142	-0-	-0-	$ 216,998	$ 38,549

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